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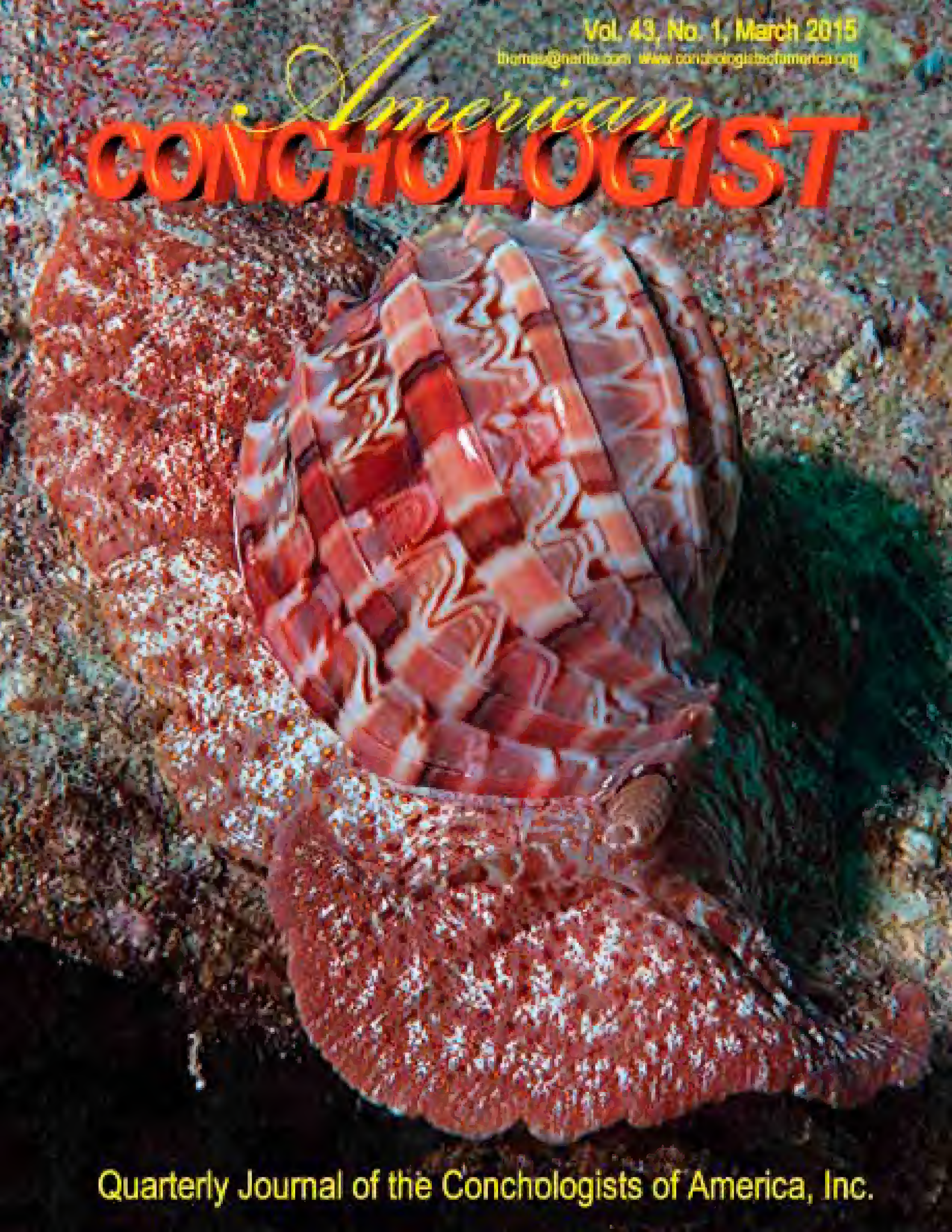
American CONCHOLOGIST



Quarterly Journal of the Conchologists of America, Inc.

CONCHOLOGISTS OF AMERICA, INC.

In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors; to the beauty of shells, to their scientific aspects, and to the collecting and preservation of mollusks. This was the start of COA. Our membership includes novices, advanced collectors, scientists, and shell dealers from around the world. In 1995, COA adopted a conservation resolution: Whereas there are an estimated 100,000 species of living mollusks, many of great economic, ecological, and cultural importance to humans and whereas habitat destruction and commercial fisheries have had serious effects on mollusk populations worldwide, and whereas modern conchology continues the tradition of amateur naturalists exploring and documenting the natural world, be it resolved that the Conchologists of America endorses responsible scientific collecting as a means of monitoring the status of mollusk species and populations and promoting informed decision making in regulatory processes intended to safeguard mollusks and their habitats.

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Editor's comments: First an apology for the incorrect identification of last issue's cover. The wonderful photograph of *Pteropurpura trialata* (G.B. Sowerby II, 1834) was mistakenly labeled as *Ceratostoma foliatum* (Gmelin, 1791). While both occur off the west coast of the US, they are really quite distinct. See further *mea culpa* details on page 23.

Now that I have that out of the way I can leave room in my inbox for corrections to the Cuban landsnails illustrated in this issue. There are certain to be some problems there. This issue has the second part of the McGinty Cuban collecting article (part three will be in the next issue). I have followed the article with some color plates of Cuban landsnails; more to come in the next issue. Then we have a short piece about cone venom. A complex topic few of us really understand, but interesting none-the-less. Harry Lee then presents an insight into a non-molluscan shell (constructed by caddisfly larva - yes, it is spelled as a single word) that I recently found for sale on an online auction site - as an unidentified mollusk. Then Edward, Gayle, and Braden Nieburger provide us with some memories of Barbara Elliot. Stepping up the pace, we have some more memories, this time of 56 years of shell collecting by Warren Graff. His shell room is the stuff of conchologists' dreams. We then have the Astronaut Trail and Sarasota Shell Club Shell Show results - especially the COA Award results. Congrats to Gene Emerson and Vicky Wall. Gene also won for the Melbourne Show, but I ran out of room.

That leaves just two pages to cover the 2015 COA convention at the B**onaventure Resort & Spa** in Weston, Florida. The Broward Club has really pulled out the stops and it seems like this will be a very special event.

See you next issue...

Tom Eichhorst

Front Cover: *Harpa cabriti* Fischer, 1860, photographed at night on a reef off of Mauritius by Charles Rawlings, 2012. This is one of the larger members of this very popular genus.

Back Cover: *Chondropometes magnum elizabethae* Torre & Bartsch, 1938. This Cuban landsnail has the intriguing habit of suspending itself from a branch on a thread-like strand of mucus during the dry months while it estivates. Photo by Simon Aiken (featured in the December 2008 *American Conchologist*), courtesy of www.simons-specimen-shells.com.

Shell Collecting in Cuba
November 1930 - part 2

Paul L. McGinty

edited by Emilio F. García and Emily H. Vokes

This is part two of the three part historical account of a collecting trip to Cuba in 1930. This account was discovered unpublished in a museum archive by Richard (Dick) Petit, who was quite interested in the many adventures by Paul McGinty. Dick Petit obtained a photo-copy of this manuscript and re-typed it for possible publication. Dick's untimely death would have halted any possible publication except for the intervention of Emilio F. García and Emily H. Vokes. They edited the MS, which had been transferred to electronic form by Dick Petit, and provided necessary annotation. The result is an exciting and timely historical account of shell collecting in Cuba, 85 years ago. The editors noted in part one:

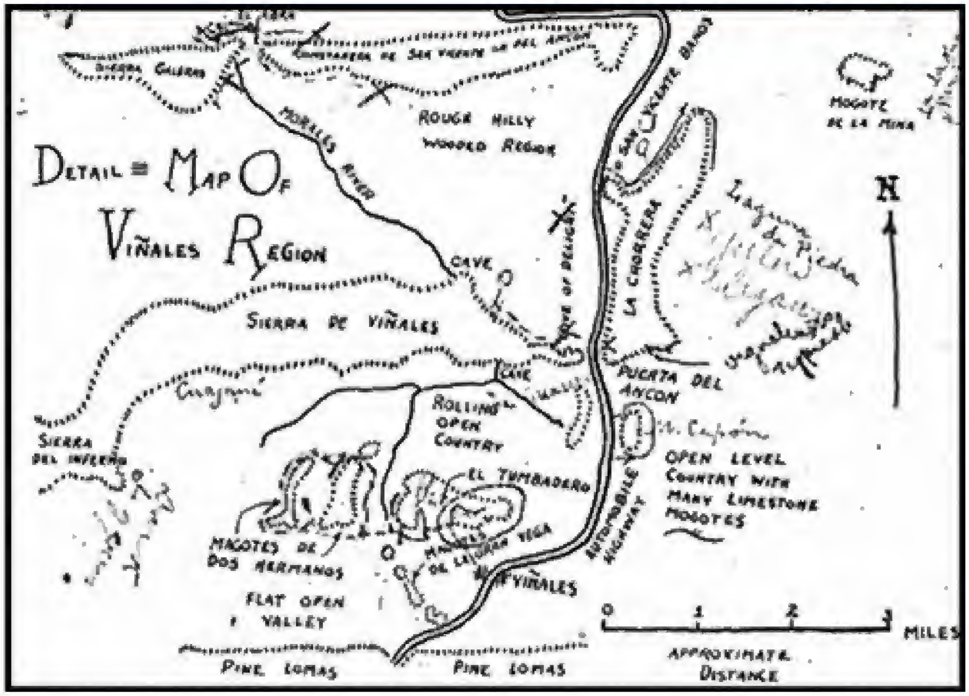
"As this is a historical account not a scientific paper, no attempt has been made to modernize the taxonomy or the rendition of "scientific" names, which have been left as the author wrote them. There has been a minimum of editorial corrections, principally typographical errors and misspellings, the latter primarily correcting the orthography of Spanish names. Minor additions by the editors are given in brackets. Those of the author are in parentheses, except those which are numbers referring to a few explanatory notes to be found at the end of the paper."

It was almost dark by now and since we had made no arrangements as to where we were to spend the night it was decided to hasten back to Viñales. The one and only, that famous hostelry, "El Central Inn," in Viñales had not looked too inviting. To tell the truth that was the main reason we tried to get into the San Vicente place but now was no time to be choosey so once more we hunted up Dr. Valle. He kindly offered to take us over to the hotel and introduce us to the proprietor and to explain in Spanish what accommodations we desired. Since he had not eaten dinner himself, we invited him to be our guest at the hotel. He accepted, and shortly after we were all seated about the one dining table at the inn. The dining room was a small square cement-floored patio at the back of the hotel. We asked the Doctor to order something for us, which he did, and we were soon feasting upon a typically Cuban concoction of stewed chicken and a yellowish looking rice, which tasted rather of iron.

Opening into the dining patio we could see the doors and iron-barred windows of the hotel bedrooms. From one of the rooms, it was to be ours, a small pipe emptied the water disposal from the washbasin thru the stone wall and poured a soapy stream of dirty water upon the patio floor. This one washbasin in our bedroom was the only one in the hotel and everyone took the liberty to enter our room and make use of it. It was very strange to awaken in the morning and discover some strange man in the room calmly shaving himself. Fortunately there were few guests at the time, however, after an extensive period of general ablutions the drain water had a habit of finding its way over the pavement and under our dining table! A small building to the rear contained a shower-bath. The soapy water rinsed from one's body passed thru a drain in the floor and was pumped back to a tank overhead to be ready for the next bather. We did not try its effectiveness but have been told that its principal advantage lies in the fact that after the system has been in use for some time, it is not necessary to use any soap to bring up a lather! Many chickens were about the patio at meal time looking for dropped crumbs. Often the diner would be conscious of something under the table about his feet but it was only a chicken, one learns to ignore such abstractions.

The Cubans allowed us but little privacy. At almost every meal we were to find a group of them on hand to watch what we did and judging by the interest they showed, and the persistency with which some of them returned meal after meal, we were most amusing creatures. Whether the town policeman, a pleasant looking young chap in a neat blue uniform of light cotton, was always on hand to keep the crowd in order or just out of his own curiosity we never learned. He was one of our most regular spectators, however. Another "regular" was an old man we nicknamed "Grandpa." He seemed to be employed about the Inn to grind the coffee, which he did with a terrible noise each day. He seldom smiled and we felt that he rather mistrusted us for his eyes were on us constantly and a familiar figure he became to us. "Grandpa" favored that Cuban custom of allowing his shirt tails to hang out over his trousers and was never seen without his straw hat.

Now to get back to our story. While the food was not cooked as Americans would wish it, we were very hungry and made out quite well. Since nobody else in town could speak any English, Dr. Valle thought it advisable for us to have him order breakfast for the next morning. We all thought the idea very good and suggested that if he did not mind we would appreciate it if he would also order the meal for the next evening as well. Alas, what an error, for the kind Dr. Valle left town in the morning and was away for the greater part of our stay and try as we would we could not get the proprietor to make any changes in any of our succeeding meals. Each one was just like all those before, a regular Doctor's prescription as far as we were concerned. The coffee cream had been heavily salted (Cubans no doubt, do this to preserve it and actually prefer this to unsalted cream or milk) and we had asked the Doctor if some other drink could not be had. He had ordered hot chocolate. It was at least half sugar and so sweet that we couldn't continue day after day to drink it. It was impossible to have them understand that we wished it with less sugar so at last we were obliged to content ourselves with plain water at the meals. Mentioning water brings to mind the strange manner in which the proprietor managed this item. Over in one corner was a large rickety receptacle which resembled a much battered and very ancient Victrola. It was always kept under lock and key and only by hunting up the proprietor, who carried the key, could one get a drink outside of meal times. Inside the contraption was a large stone basin thru which the water filtered down into a lower receptacle from which it could be scooped out for use. It was not the world's most wholesome looking filtering system but then none of us seemed to be affected by drinking from it.

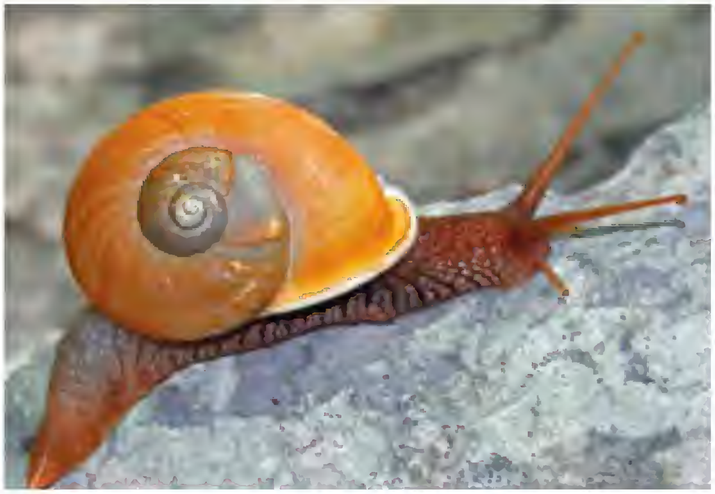


A map by McGinty showing the Viñales area and the many mogotes where the team collected landsnails.

Our bedrooms were roomy affairs with high ceilings but even here we found little privacy. Inquisitive children were constantly slipping into the rooms to see what we were doing. Chickens were also frequent visitors and had to be shooshed off our beds. A few less bold children managed to poke their heads thru the bars of our windows to gaze most unselfconsciously in upon us. At first we gently pushed the protruding head back thru the bars but it proved quite useless for almost immediately the same head would pop up thru another window.

Another convenience was our washbasin. The stream of water flowing from the one faucet was no larger in diameter than a pencil and after one's face was well soaped it was most difficult to get sufficient water to rinse it off!

The day following our arrival at Viñales was to be devoted to collecting. An early start was made for the Puerta del Ancón and we had hardly arrived and started to look over the large cave on the west side of the road when two young Cuban men approached us thru the field. They were driving a delivery truck loaded with provisions for the little town of La Esperanza and had stopped to learn what we were doing. One of them had lived in the United States for a time and was very proud of his ability to speak English. The other chap was rather embarrassed because he couldn't enter into the conversation but waited patiently while his friend did the talking. He told us an interesting story about the cave we were visiting. It seems that during the Cuban Revolution, General Gomez and a band of his followers had been forced to take refuge in the cave and had successfully withstood the attacks of the Spanish forces stationed just the other side of the present road thru the pass. It is now an historical shrine of the Cuban people and is known as the "Gomez Cave." Our newly formed friend pointed out to us the many fissures in the rock at the rear of the cave. They form a veritable maze of tunnels into the side of the mountain and it is said that it is possible to follow a course that will eventually cause one to emerge from the other side……. We would liked to have explored further into these natural tunnels but deemed it too dangerous because being lost in such a labyrinth in the very heart of a great mountain would have been unpleasant, to say the very least! Our Cuban friend left us with an invitation to visit him at his home in Pinar del Rio.



McGinty's *Pleurodonte guanensis*, now *Zachrysia guanensis guanensis* (Poey, 1857). This is a large 45mm+ shell. Photo by Simon Aiken (featured in the December 2008 *American Conchologist*), courtesy of www.simons-specimen-shells.com.

Nearby we found our first specimens of *Pleurodonte guanensis*, a large brown shell with a very slimy blackish snail inside which caused one's collecting sack to become terribly messy in short order. As we searched further, progress was made westward on the north side of the mountain towards that beautiful cove which was so appropriately named by Henderson's party more than a decade before, "The Cove of Delight." It proved to be all that the name implied and very rich in molluscan life. Tom and Bud stayed in the Cove to do further collecting while Maxwell and the writer continued on thru the fields bordering the mountainside to a spot about three quarters of a mile beyond. Starting to collect at the base of the mountain we worked gradually higher and higher up the steep sides, always finding something of interest awaiting us. At one time the writer found himself within 25 feet of the summit but further progress became very perilous here for the face of the mogote rose like a great stone wall almost perpendicular overhead and afforded little or no opportunity for climbing holds. We were fortunate in finding during our collecting a few specimens of the rare *Chondropoma vignalensis* among other interesting things and took numbers of specimens of that large lusty shell, *Cepolis subtasulcata*, strangely always found dead.

It was well after noon when Maxwell and the writer stopped collecting and returned to the automobile. The others had beaten us out and had been killing time by collecting on the east side of the road, Mogote La Chorrera. They too had found the collecting good. At the cove they had taken *Chondrothyra egregium* Gund., *Tostum tostum* Gund. Torre, *Chondrothyra shuttleworthi retulatum* T & B, and *Chondrothyra incrassatum* Wr. & Pfr. On the east side of the entrance to the Cove of Delight they had found specimens of a very interesting *Urocoptis*. We thought the molluscan life to be very bountiful but were told that the real time to collect is in the warm, rainy summer season when vastly greater numbers are visible. This is one of the richest spots, as far as molluscan life goes, to be found anywhere in the entire world!!

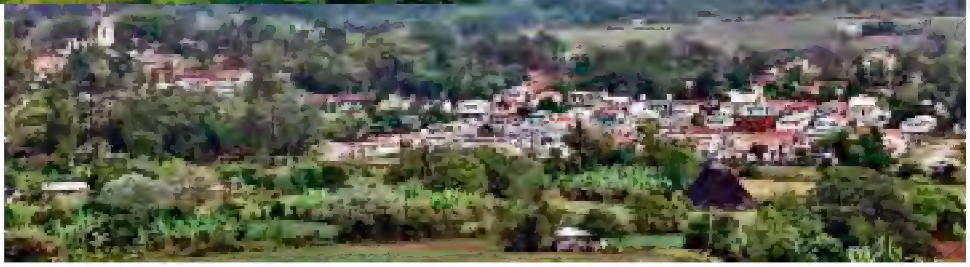
Returning to the hotel at about 2 PM we partook of liquid refreshments, for the day was warm, and spent most of the rest of the time cleaning some of the specimens which we had already collected. Unfortunately, in such an expedition, about as much time is involved in the "cleaning" of specimens as is devoted to the collecting, for "woe be it" once one gets too far behind!

In fact, we were beginning to fall a little behind on our cleaning side of the ledger and some of the mollusca were becoming quite well "ripened." At the rear of the hotel building we were soon busy pulling drowned *Liguus* from their shells with the aid of strangely bent bits of wire resembling corkscrews. An ugly looking old vulture soon discovered our presence and enjoyed the choice morsels which we tossed to him, quite unafraid to come nearby.

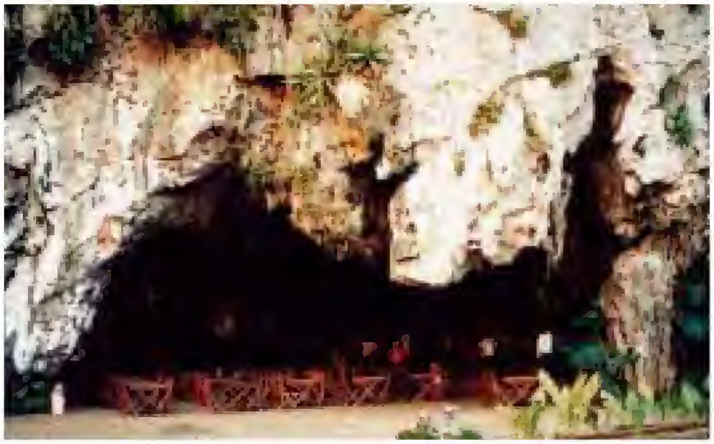
While working we evolved a plan to make an excursion the next day to El Abra which is a gateway thru the northern sierra some distance to the west and where we had been told the collecting was extremely fine. Upon inquiry we learned that a car could be driven to within a mile or so of the pass but that the road was very bad. We feared to risk our own car upon anything which the natives considered

(Left) - Viñales valley as it would have appeared to Paul McGinty and party in 1930: scattered farms and small settlements. The mogotes (immense rounded hills) are 200 million-year-old limestone remnants (Jurassic) left after erosion has lowered the area around them. In 1930 they were interesting geological features, of interest to only a few - including conchologists.

(Right) - The town of Viñales today is a thriving community and there is a booming tourist trade. There are hotels, inns, and casitas available for foreign visitors.



A single mogote and the rich red soil that surrounds it. This modern view is very much as described by McGinty.



One of the caverns under a mogote, now a restaurant that caters to foriegn tourists.

The base of of a mogote that has been given a park-like aspect for the tourist trade.

A tour bus sits under a mogote while the passengers explore the region.

"very bad" and wisely made arrangements with a local man to drive us out the next morning in his car, the town taxi.

We were off at six AM in his little Ford touring-car. Since the party pretty well filled up the small auto and the collecting would be quite strenuous, mostly climbing, Dad thought it wiser to remain at the Inn for the day. It seemed rather good to be bouncing over the road at a good clip and to lose that peculiar sense of responsibility and despair ever present to one driving his own car over these roads. As the car rattled thru Puerta del Ancón the sun was barely up, the shadows in the valley were very long and weird. The driver made it a practice to shut off his motor at the top of each hill and to coast as far as possible without power, no doubt believing that this saved much gasoline. About two or three miles north of the Hotel of the Baths (San Vicente) the Esperanza road made a rather abrupt turn to the west and followed for more than a mile very close to the foot of the northern range, Costanera de San Vicente. Here, we were rounding the eastern part of this long mogote. At its far western extremity, about five miles distant, was located El Abra which separated the Costanera de San Vicente from the continuation of the mountain range to the west. Leaving the main road which leads to the little coastal town of La Esperanza we continued westward. The mountain range with its organ like peaks was silhouetted against a very dark and forbidding looking sky. A storm was threatening as we paused on our way thru a typical little Cuban country village (see maps) to allow our guide to inquire about the road leading to the pass. The rest of us strolled thru the town and Maxwell took a number of pictures of the quaint thatched houses built in a row upon the summit of a rather steep hill. Most of the inhabitants, their dogs and cats as well, came out to see us. They seemed quite friendly and their curiosity was readily pardoned for it is most unlikely that any of them had ever seen an American before.

At last our guide returned and we were on our way again. We had thought the roads just passed over very bad but they were nothing compared to what lay ahead. They were really only wagon trails thru a rolling country but how they twisted that little car! It seemed impossible time and again that the frame of the car would not be broken for the front axle would lean far to one side while the rear axle twisted just as far to the opposite side and the little car seemed to quiver as if in great pain. We called it the "rubber" car and not without reason for no matter how much it was stretched in any one direction it always seemed to return to its natural shape quite unharmed. The country we traveled thru was rather barren with a coarse grass and here and there a few scrubby pines but little else. At times the guide would ease the car down into a valley between two of the rounding hills or "lomas" to find a veritable maze of trails winding every which way. Fortunately they all led to the same place and were probably made during the rainy season in attempts to find less muddy passages. From time to time we paused to open a gate across the trail, passed thru, closed the gate behind us, and were on our way again. It was really a very strange and most interesting experience and caused us to form an entirely new conception of how bad a road can be and still be "passable."

Finally the pass, El Abra, which was our destination hove into sight. Within about a mile of it the guide stopped the car and made it known to us that the rest of the way must be done on foot. The trail leading down thru the pass was quite steep and the guide feared that the impending rainstorm might make the surface too muddy for the climb back up again. Each fellow carried what he could down the hill. There was our collecting paraphernalia, including boxes, cloth sacks, etc., bananas and oranges, a loaf of bread and a gallon of water in a thermos jug.

Upon closer approach the pass seemed quite like the Puerta del Ancón near Viñales except perhaps it is not quite as narrow nor the mogotes forming its sides quite as high. The little Morales River looked very cool and green as it gently flowed westward skirting the northern slope of the Sierra Galeras, the western part of the gateway. Nearby was a small sawmill where we were given permission to leave some of our baggage for safe keeping while we continued down the river to do some collecting. It was near here that another Cuban joined the party, altho we did not hire him to do so.

A footpath thru high luxuriant grass led us along the edge of the riverbank. It was very pleasant walking with the cool river on one hand and the high wall of the mountain on the other. At its base and for some distance higher up was a maze of green vegetation as luxuriant as any growth we had ever seen. Pausing to collect upon the rocky wall from time to time we found some fine specimens. Among them were *Eutrochatella sublaevigata* Torre and *Chondrothyra shuttleworthi abraensis* T. & B., a very pretty shell with variable colors. It had rained lightly as we walked along but by now the heavy clouds had passed and the sun was shining adding cheer to our hearts. After we had followed the river for about a half-mile it turned suddenly towards the south and headed straight towards the towering wall of the mogote where it entered a cave and disappeared under the mountain. It was near this cave that Henderson's party had discovered that most unusual shell now named *Chondrothyra hendersoni* in his honor.

An examination of the cave, which is known as the "Cave of the Hendersoni," revealed no specimens of this unusual shell but uncovered a specimen or so of *Megalomastoma superboom* [*sic, superbum* Torre & Bartsch], an interesting form which we had taken before near Viñales. Just to the east of the entrance a careful search upon the ground disclosed numerous dead specimens of the rare shell which we sought but try as we would no living specimens could be found. The great cliff towered high above our heads and was so steep that it was not possible to climb but a short distance upwards.

Somewhere high above on the cliff lived a populous colony of these unique shells, yet no one has been able to discover exactly where they live. The many dead specimens which have been washed down, most likely by heavy rains, are to be found only at this one little spot near the cave. A short distance beyond we made a search and could not find a single dead specimen while a careful search upon the ground and upon the slope of the mogote across the river on the other side of the cave revealed no specimens. What pretty shells they were with a very fine striping effect rather suggesting the colored markings upon the old fashioned "hard" candy and with a delicate shading of purple, pink, and white. Luckily some of the dead specimens which we found had but recently made the several hundred-foot descent and were still possessed of nice bright colors and were quite perfect even after the terrific drop. It is interesting to note at this point that all forms of *Chondropoma* and *Chondrothyra* seem to make a practice of breaking off the tips of their shells by falling upon the rocks, seldom is a perfect specimen found still retaining the tip! Thus, specimens with tips broken off are natural and are considered to be perfect by collectors. Besides a number of well-preserved dead specimens of the "*hendersoni*" we had taken some nice *Urocoptis*, *Eutrochatella*, and *Chondropoma* and since we wished to do some collecting in other places we at last had to leave the interesting "Cave of the Hendersoni."

Back by the sawmill we paused to eat our lunch and after finishing decided to divide the party into two sections in order to cover more territory. Maxwell, Bud, and the driver of the car were to explore the south side of Costanera, east of the pass, while Tom, our newly acquired helper, and the writer were to collect along the south side of the Sierra Galeras. The vegetation was extremely dense and the writer, intent upon the collecting, allowed Tom and the Cuban to work on ahead at a faster rate until they were beyond hailing distance. He had kept on, expecting that I would catch up with him at any time, while I, not knowing whether he was ahead or behind, decided not to attempt to locate him but to give my undivided attention to the collecting which was excellent. Later, Tom explained that they had passed beyond the place where the Morales River reappeared upon this side of the mountain and still further beyond had come to a stream which was a tributary of the same river and flowing back under the mountain again! He and his Cuban friend had made much better time by working from point to point thru the tobacco-fields while I had kept in close to the wall of the mogote where the going was hardest on account of the dense vegetation. After reaching the spot where the Morales River flowed out from underneath the mogote I decided that since it was getting rather late it would be best to return to the little sawmill to meet the others as per agreement. Tom and the Cuban were already there and waiting for me. He had taken a beautiful pure white shell *Chondrothyra egregium lacteum* Torre. Strange to say, but Dr. Torre informed us later that these were the first taken from this locality, all previously having been found on the eastern side of the pass. Tom had had time to do some collecting on the mogote to the east of the pass and reported the collecting very good with shells of an entirely different character. This is doubly strange when one considers that the only separation between these two localities is the narrow level floor of the pass! The *Liguus* had been very scarce. Tom had taken about five or six specimens altogether from both localities. They seemed a bit different than Viñales *Liguus* in general.

The other branch of our party had not returned yet so Tom and I decided to return once more to the "Cave of the Hendersoni" and make one last effort to find a living specimen of this exceptional shell. We were alone now for the Cuban helper had been "paid off" and had departed quite delighted. This time a half hour of diligent searching upon the ground turned up about three living specimens of this rare shell. Most likely the rain of the morning had washed these fellows down from their rocky perches high above on the cliff. Later we learned that very few collectors have ever seen this shell with the living animal!

Upon returning to the sawmill again we found the rest of the party waiting for us. They had found the collecting very fine also and had discovered some forms that were different even than those which Tom had found on the north side of the same mountain. They made us very envious by telling of a refreshing bath they had taken in a little river just south of the Costanera, discovered while they were collecting on some small detached mogotes nearby.

The return trip to Viñales was without any particular event for by now we fully knew what to expect of these Cuban trails. We found Dad at the hotel looking very rested and cool. It had been a great day for him for from every quarter of the town and from all over the countryside in general the natives had paraded into the hotel to see the great American Naturalista. They had brought everything from live toads and snakes to evil smelling dead snail shells; they had even brought rabbits and owls to offer for sale. At first he had bought a few shells from the boys but finally learned that there was a limit to every good thing for more and more appeared thru out the day with additional specimens and seemed offended when he tried to explain that he had "mucha caracoles" already. We had an opportunity to witness one of these attempted transactions after we returned and it was very amusing. Dad attempted to explain that dead shells were undesirable. It was "Muerte, no muerte, must be viva caracoles. Already very mucha caracoles." If this did not convince the would be seller Dad started to "talk with his hands." It was lots of fun and Dad thoroughly enjoyed the whole affair.

The next day was Sunday and we decided to visit the Mogotes de Dos Hermanos (Two Brothers) two mogotes just west of the mogote El Queque and only two or three miles from the town. It was a beautiful day so we took our own car and the entire party made the trip. Leaving the car not far from the mogotes we decided to hike on foot the rest of the distance. Tom and Bud started off for the western mogote of Dos Hermanos while Dad, Maxwell and the writer struck out for the southwestern edge of the Mogote El Queque. Here along the edge of the mogote which was bordered by a rather neglected looking tobacco-field we discovered *Liguus*. They were scarce and mostly found fastened to the rocks either well concealed by vines or just visible within some crevice along the rocky side of the mogote. These *Liguus* were mostly slate colored with striations across the body whorl, typical *Liguus flamellus*. The three of us continued up the western side of Mogote El Queque to a point somewhat short of its northern extremity and collected as we progressed. The best collecting seemed to be right at the foot of the mogote and upon the detached pieces of mogote nearby. Near the base we found a beautiful large lacy thin shell, *Chondrothyra gundlachi affine* Torre. *Chondrothyra reticulata fraterna* Torre & Bart. was quite abundant as was *Eutrochatella* (*Viana*) *regina lirata* Torre, a very pretty shell, yellowish to pink and with a rough surface. We discovered one ideal appearing locality, a sort of "bay" supporting an extremely lush growth of vegetation but were disappointed to find few shells here. The collecting upon this mogote had been not quite as good as upon most of the mogotes we had tried before. Nevertheless, we had spent a pleasant morning and had some nice things to show for our efforts, especially the nice *Liguus*.

Upon returning to the car we found that Tom and Bud were still collecting but did not have long to wait before they appeared upon the scene once more. They had started collecting at the southeast corner of the second of the Dos Hermanos mogotes and here had found a few specimens of a beautiful white *Liguus* with deep green lines, one shell in particular was an extremely fine specimen. They had found them very well concealed and living only upon the rock (*Liguus* generally are found clinging to plants) at the edge of the mogote which was reached by crawling under the bushes which bordered the base. This was *Liguus fasciatus crenatus* Clench. Working their way around the western side they collected upon some small detached pieces of mogote (SW corner of main mogote, western one) they found *Urocoptis vignalensis*. It was on this western side that Tom succeeded in finding one of those very rare black *Liguus* as well as several specimens of the tobacco-colored *Liguus flamellus cervus* Clench. This splendid find had given them heart and they had worked their way completely around the northern end of the mogote and here had decided to cross the valley between the two mogotes (Dos Hermanos) and return by walking along the eastern side of the eastern mogote, thus they had completely encircled the two "Dos Hermanos" mogotes when they finally arrived back at the car. They reported the collecting not as good as they had seen but were well pleased with what material they had found. Besides the *Liguus* and the typical Viñales *Urocoptis* previously mentioned they had found a few fine specimens of *Jeanneretia parraiana* d'Orb., one almost black form. Dead specimens of *Cepolis subtasulcata* were reported as having been seen on the western mogote, none living. We were not disappointed in the collecting for the day because it was not expected that we would find a great variety of small things. It seems that the Henderson Expedition had also collected here a number of years before and had reported the collecting rather slim at that time. What *Liguus* we had taken were greatly appreciated, however, and it had given us a very pleasant half-day.

Returning early in the bright sunny afternoon we were obliged to stop several times upon the narrow road to let large wagons drawn by slow moving oxen go around us. We passed one ox cart filled with a family of Cubans who were evidently just returning from church in the town.

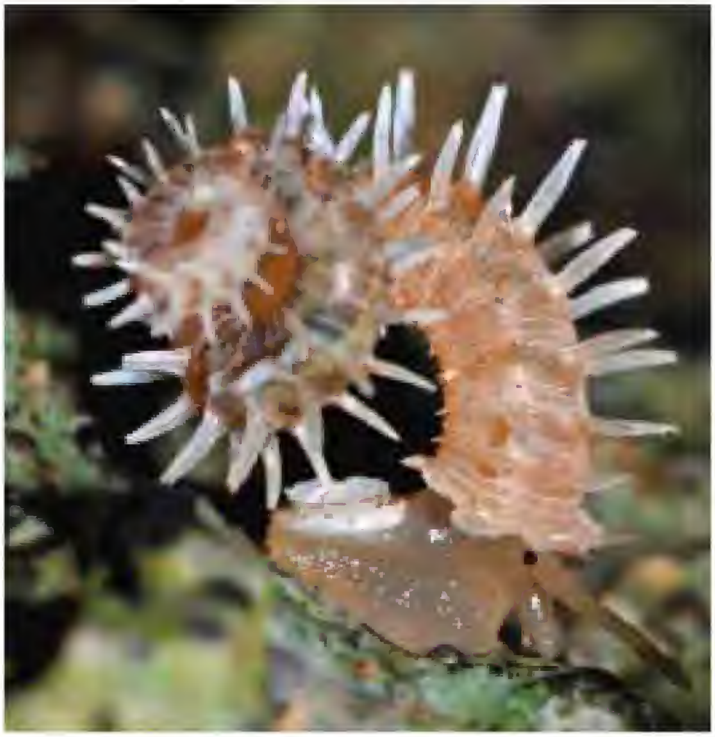
The women in the party were neatly dressed in clean looking clothes and looked very quaint sitting in the cumbersome oxcart over which a rude canopy had been built to shade them from the hot sun. Maxwell succeeded in obtaining a number of photographs of the entire party. Apparently they felt quite complimented by having us wish for their picture.

The rest of the day was spent in cleaning shells and in leisure about the town. In the morning Tom and Dad decided to stay at the hotel and clean some more of the specimens while Maxwell, Bud and I made a trip to collect near the San Vicente baths. Leaving our car parked near the "Hotel of the Baths" we struck in at a point just south of the Hotel to reach the large Mogote La Chorrera. Keeping close to the mogote we followed along its base to a spot not far away where a little river flowed from within a cave in the mountainside. Bud and I posed for pictures here but the high wall of the mogote and the extremely lush vegetation which surrounded this damp spot made the scene too shady for good photography. How cool it was here by the river cave. The air was heavy with the smell of well watered plants and damp earth and with the half-light which filtered thru one could almost believe that it was all just a strange fancy of the imagination. There is something mysterious about these river caves, something most appealing, but just exactly what that strange attraction is I am unable to say in so many words.

The collecting near the cave was excellent. We took a very beautiful form of *Chondropoma* with a delicate white shell banded with brown. Also, a specimen or two of that very rare and beautiful white *Chondropoma vignalensis clappi* but none living. Besides these, many smaller but interesting forms of *Urocoptis*, etc., were found. Finding a spot not far above the cave where a tree had fallen into the river we made the crossing but not without considerable jollity for after Bud and I had crossed the stream, over the tree, and reached the other side, Maxwell cautiously started to work his way out upon the log. After reaching the midpoint he seemed to falter and for some time he paused there desperately endeavoring to retain his balance. In some way he succeeded in making the crossing without falling into the river but his chances certainly did not look any too good for a time.

Striking back once more to the edge of the mogote we followed its outline northward around the end and worked our way for perhaps a mile southward upon the eastern side. It was very beautiful country to work in with fields of fine looking tobacco planted in many places almost up to the face of the mogote. We uncovered many fine small things all thru this area and were constantly on the lookout for any signs of Wright's "lost species" (*Blaeospira echinus*). While we had no luck in finding any of these strange shells we were able to find a few specimens of *Liguus* from time to time. They were *Liguus flamellus organensis* Clench and this mogote La Chorrera is the type locality for this form.

Upon the way out we noticed a rather crude rustic ladder leaning against the sheer surface of the mogote. From the top of the ladder one would have been able to reach a sort of pass on the side of the mountain thru which it would, no doubt, have been possible to reach the top. The writer stepped upon the first rung of the ladder which immediately gave away. Needless to say, we did not attempt to reach the summit of the mogote that day! The camera in Maxwell's able hands was busy snapping pictures as we worked our way out to the car once more.



McGinty searched in vain for what he called "Wright's lost species," ***Blaeospira echinus*****. This is** ***Blaeospira echinus infernalis*** **(Torre & Bartsch, 1941), an exquisitly sculptured shell that rarely exceeds 10mm in size. Note the operculum. Photo by Simon Aiken (featured as the December 2008** ***American Conchologist*** **cover), courtesy of www.simons-specimen-shells.com.**

It was still quite early so we decided to try collecting upon Mogote Capón which was off the east side of the road on the way back to town and not far south of the Puerta del Ancón. We struck in near the southern end of the mogote, walked around the rear, rounded the northern end and from thence back to the road. There were numerous smaller mogotes nearby which we examined as we progressed around Mogote Capón. We took the usual haul of smaller things and were very pleased to discover that *Liguus* lived here, too. Well pleased with the mornings work we returned to the car and reached town at about 2 PM.

That afternoon while walking back from a visit with Dr. Valle who had just returned from Havana we were surprised to have a small Cuban boy rush across the street and point desperately towards a man who was standing on the opposite curb some distance away. At first we did not realize what the boy wanted but finally concluded that the man wished to speak with us. He proved to be the local schoolmaster and invited us into the schoolroom to view a collection of shells of the region which had been gathered by his pupils. It was really a very nice collection of Viñales shells! Upon entering the school room the entire class arose and stood at attention and when we left a short time later the schoolmaster had the entire class form into two columns between which we were obliged to walk, assuming our most dignified bearings. The schoolmaster was most gracious and insisted upon presenting to us some of the forms which we had not been able to collect ourselves.

That evening at the dinner table at the hotel we were accosted by a group of Señoritas who wished to sell us tickets to some dance or social function to be held the following evening. They had quite a time trying to make us understand what it was they had to sell and when we gave them a half dollar they were quite offended seemingly and nothing would suffice until we had all "chipped in" enough to buy one dollar ticket. This we later presented to the hotel proprietor who was delighted.

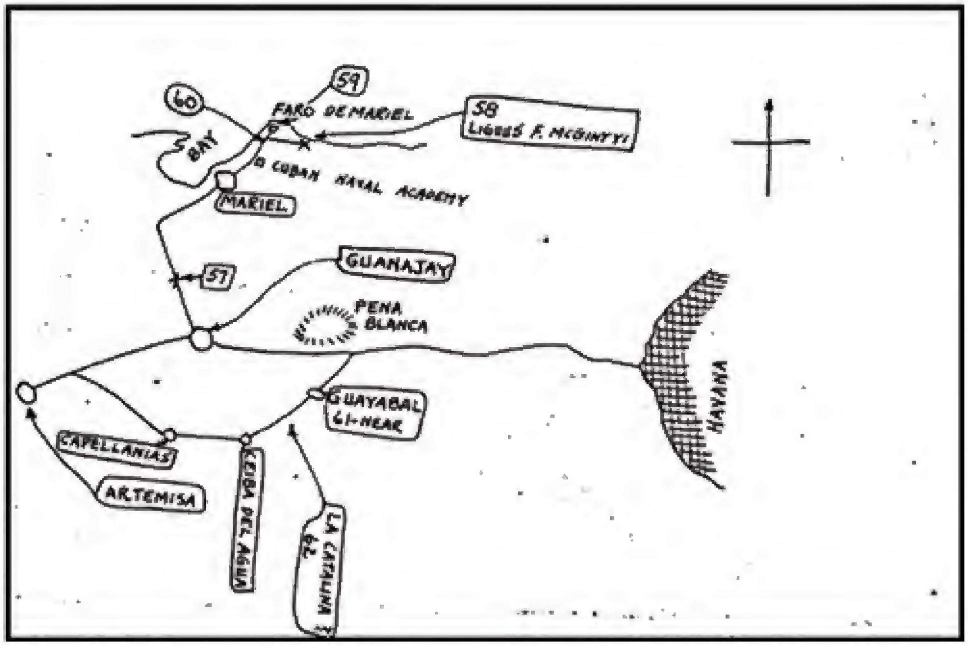
Dr. Valle located a young man for us that evening who was to act as a guide to take us up to the summit of the large mogote known as El Queque. He was on hand bright and early the following morning and shortly after sunrise we were on our way to the mogote. A walk of a mile or so (see map) brought us up to the base of the mogote and at a point where it was possible to get a foothold on the steep side of the great mound of rock. Our guide hurried ahead and we did our best to stay with him. At times the going would be fairly easy and again at other times it would be necessary to climb up the face of a cliff with very scant footholds and handholds. Dad had stayed at the hotel for the morning because we had figured that the going would be a bit strenuous and it was not long before we were quite fully convinced that this was the truth. The vegetation upon the mogote was very thick with many varieties of plants represented. Among the most beautiful and unusual of all the forms was a large tree fern which seemed quite common. To make this climb up the mogote one follows an apparently little used trail which leads by a very indirect route to the top of the mogote. At times the climbing is so steep that one is obliged to exercise great caution. Parts of the trail led one along narrow rock ledges upon the almost perpendicular surface of the mountain. A slip at any of many points upon the way up would have in all probability spelled "finis" for any one of us. Fortunately the vegetation even upon the steeper parts of the climb was quite thick and one could consistently maintain some sort of a hold upon some small tree or shrub. At other times this lush growth of plant life proved to be a "devil in disguise" for it completely shielded from a climber's view the sheer cliff which might lay just below. Thus one was rather inclined to acquire a feeling of false security when surrounded by green leaves in such plenty but at rather frequent intervals one would be warned to use care by catching a glimpse of the valley far below. From time to time we paused upon some rocky projection to rest and enjoy an uninterrupted view of the valley which gracefully unfolded before us. It was still quite early and a thin haze floated over everything making distances seem vague and unreal. About us, and growing from the steepest parts of the slope we could see the beautiful tree ferns unfolding their great fronds to the climbing sun. There were wisps of clouds upon the tops of some of the higher mogotes which we could discern in the distance. At times the going would become easier and we would follow the guide over an almost imperceptible trail leading thru a narrow pass flanked on either side by great walls of rock. Perhaps the pass would lead to a large natural amphitheater with a level floor and quite large trees. At such places we paused to hunt *Liguus* and were fortunate enough to find a number of them altho they proved to be scarce upon the trees. Maxwell, our official photographer, was constantly snapping pictures or pausing to gather minute shells which he found upon the rocks. With difficulty we convinced him that we must climb on to the summit before the sun rose higher for a strenuous climb under a Cuban sun is, to say the least, difficult. Maxwell would climb just so long and then pause to gather specimens. At such moments we would all point to an elevation just beyond and convince him that "this" was surely the peak. He would rather reluctantly go on with us until we reached the supposed summit. Here we would be surprised to learn that our judgment had erred for still beyond us would be seen another higher "peak." Time and again this happened but we kept on climbing. When at last the summit was reached we could hardly believe our eyes for there was nothing beyond and above us. The view from the top was superb for the sun had risen sufficiently by this time to have completely cleared away all the mist and we could see in every direction for miles about us. A rather makeshift flagpole had been erected at the very summit and the writer climbed as high as possible upon it to photograph the valley looking towards the tiny town of Viñales. These pictures when developed had no foreground of shrubbery and for all the world were like scenes taken from an aeroplane! On the north side of the summit was a sheer drop for hundreds of feet. We approached the edge as near as we dared and amused ourselves by heaving large boulders out into space. We could not see where the rocks fell but after a time which seemed to be measured in minutes would hear them boom-booming as they struck the side of the mogote and continued their crazy courses down to the valley below. Beyond the chain of mogotes to the north we could clearly see the shining blue of the sea. The climb had been most worthwhile and was indeed a splendid climax, the crowning glory of our stay in Viñales! Return to town we must, however, for time was flying and after a pause to do some collecting we started down. Near the summit upon the way up we had gathered a small box full of a most beautiful orange colored shell, *Chondrothyra aurantium*. They had been quite a scarce form and were consequently valued very highly but alas, we could not find the box which held them when we started down. A careful search of our trail failed to disclose the presence of the box so we were obliged to pause again to hunt for a few of these pretty shells before continuing down again. A few were found so that the form might be represented in the two collections.

We made one other good find near the summit in the form of a very rare *Chondropoma*. To the casual observer it appeared to be quite similar to the *Chondropoma vignalensis*. Only one specimen was taken alive but several dead ones were found. Of course we took numbers of the commoner small shells as we went along.

The trip down from the summit was quite uneventful altho we were all convinced several times that our guide was lost himself. He had foolishly worn white clothes, which were torn to shreds by the brush, and he appeared to be very tired when we all reached the valley once more.

Back at the hotel we found Dad busy packing specimens into boxes and labeling them for we were to leave Viñales in the morning. After a bit of lunch all concentrated upon the task and before dinner things were in shape for our departure. This trip to Viñales had been a wonderful experience which I am sure we shall all remember with great pleasure to the end of our days.

Piling all of our baggage into the car the next morning we started the long climb up the hill on our way back to Havana. Our friend Dr. Valle had told us of another road which would detour us around much of the very bad road we had passed over on our way into the valley. We followed his directions without great difficulty and were very much pleased to find that via this new route the road, or trail as it might better be called, was ever so much better going and consequently we found ourselves back upon the Carretera Central at a point somewhat east of where the regular Viñales road strikes it long before we expected.



McGinty's original map of the collecting areas just west of Havana. He doesn't provide a mileage scale, but it is about 15 miles from the outskirts of Havana to Guanajay and 5 miles from Guanajay to Mariel.

As we continued eastward over the smooth new highway plans were made to stop at Rangel Hill once more and make one last attempt to find specimens of the beautiful *Liguus blainianus* which we knew lived there. We reached the Hill at about eleven o'clock and started to search at a spot somewhat east of where we had made our previous unsuccessful hunt. At first no one was able to find any living specimens but after some time Tom discovered our first living specimen concealed under a jagged piece of rock. This, of course, gave us renewed enthusiasm and it was not long before Maxwell shouted that he too had found *Liguus blainianus* living. He had discovered a colony of them living in the rotted part of a tree. Soon some other member of the party shouted that he too had found a colony of them in a rotted cavity in a living tree. It was not long before we were searching for this one variety of tree and upon finding one which had any cavities where the wood had started to become soft we would almost invariably find living *Liguus* concealed very carefully within. Collecting in this matter we were able to gather a nice supply of the shells in a couple of hours time but strange to say one rarely if ever could find one of the shells living upon the limbs of the trees or in exposed places upon the trunks as we had found other forms of *Liguus* in the past.

While turning over large stones to search for smaller things such as *Megalomostoma*, etc., the writer exposed a spider as large as a man's fist and covered with a sort of shaggy hair. We watched him for some time and since he made no attempt to bite us we finally left him undisturbed.

It had been extremely warm work climbing upon the steep side of the great hill and consequently upon our return to the car we all hung our shirts up in the sun so that they could dry out a bit. The blazing sun soon did its work and once more we were rolling along towards Havana.

The central square in Guanajay, photographed in 1932. The town was founded in 1650 and is surrounded by fertile fields of sugar cane and tobacco. Photograph from Wikipedia.com.

On the way we stopped for a few minutes at a spot just a little west of Las Mangas to collect some more of the *Liguus* found there. We were back in Havana in time for dinner that evening and to discard our khaki clothes which had been our only wearing apparel for a week. It certainly seemed good to get back to the fine food of the Maison Royale and the conveniences of the city once again.

Thursday, the day following, Maxwell, Dad and Tom spent the morning at the Museo Poey[7] (University of Havana) where they met Dr. Torre's young assistant Dr. Pedro J. Bermúdez.[8] Bud and I spent the morning in more sightseeing.

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[7] Felipe Poey (1799-1891) was Cuba's most eminent naturalist of the 19th Century and the first professor of Zoology at Havana University. Among his many publications, his two volumes on Historia natural de la Isla de Cuba (1960) stand out.

[8] Born in Las Villas Province, Cuba, in 1905, Dr. Bermúdez later became Cuba's best known geologist, specializing in Foraminifera.

Tried to locate a museum described in our guidebook but apparently the book was in error for no such building seemed to exist in the stated locality. Everyone returned to our hotel for dinner and Drs. Aguayo and Bermúdez ate with us as our guests. In the afternoon we all returned to the Museo Poey to see the shell collection. Among other interesting exhibits in the museum was a two headed baby mounted in a glass jar full of alcohol. It certainly was a queer freak!

The next day was also spent at the Museo Poey by Maxwell, Tom and Dad. They were very happy receiving gifts of specimens which were duplicates in the museum collection. In the afternoon they repaired to the residence of Dr. Aguayo who showed his own private collection and presented the collectors with further specimens.

Bud and the writer spent the day in more sightseeing. At noon we tried a meal at a typical Cuban restaurant and were served something quite resembling our American Chop Suey. It tasted quite good after all the tramping about that we had done. In the afternoon we decided to visit a section of the city in the older part which according to our guidebook was famed for the tough character of its people. We walked up and down the designated streets and were quite disappointed because nothing seemed to happen. I don't know just what we expected but then perhaps the "wild folks" only come out at night.

It was planned by Dr. Torre that Bermúdez should take us to Camoa to collect shells the next day. Dad had some shopping which he wished to do, especially to purchase one of Dr. Torre's School Geography Books of Cuba to take home as a souvenir with him, so did not come with us on this trip. We met Dr. Bermúdez at his home bright and early in the morning and started at once to drive eastward on the Central Highway out of Havana. We had plenty of amusement trying to make Bermúdez understand our attempts at conversation which were mostly made via the sign language for he spoke no English and we likewise spoke no Spanish! It was really surprising how well we made ourselves understood, tho, of course, most of the conversation concerned shells or localities where certain kinds could be found. Bermúdez certainly turned out to be a great scout and a most excellent companion. He was most cheerful and in his most happy moments would amuse us by singing Cuban songs as we drove along. He also had a stunt of singing the same tune in the varied tempos of Cuba, Argentina, Mexico, etc. When we tried to speak any Spanish we always endeavored to stress the rolling of the "r's", very much to his amusement. He came right back at us with a comic recitation of a bit of doggerel every word of which started with "r." My but how he could roll those "r's".

Our first collecting stop was at a culvert just before we entered the village of San Francisco de Paula. We discovered a few specimens of *Pleurodonte sagemon arangiana* Poey. They were hidden on rocks, etc., alongside the road. (This was our station #39 a) We tried to find some of them in the village just beyond but had no success. Bermúdez pointed a side road out to us and directed us to a farm called "El Diezmero." One might call it a farm but in truth it was more like a country estate for the grounds about the house (a well built frame building in no way resembling a farmer's dwelling) were very well maintained. Bermúdez introduced us to the owner of the farm who proved to be a real Cuban gentleman. He spoke perfect English and had the gracious manners of a European aristocrat. His appearance was quite in keeping with his character for he wore a short dark beard that was very becoming to him. Permission to collect upon his grounds was very kindly given and an invitation to return to his home after the completion of our work was courteously extended. A drizzling rain was falling at the time and it was chilly so when he mentioned that he would have something prepared to "warm us" on our return we anticipated meeting him again.

Soon we had reached the habitat of the *Pleurodonte* which lived on his farm. It was raining harder by this time and needless to say we were beginning to become quite wet. The snails lived in clusters at the bases of the trees in cavities or hollows formed by the buttressed roots and so busy were we in gathering them that we hardly minded the rain. This form was *Pleurodonte* (*Caracolus*) *sagemon arangiana* Poey and its native habitat was Cabo Cruz, Oriente Province, having been introduced here by Dr. Nicolas T. Gutiérrez, President of the Academy of Sciences in about 1850-1853. This is the so-called "button shell."

Upon our return to the farmhouse after the collecting we found our friend the owner eagerly awaiting us and also that his invitation to enjoy a bit of refreshment with him was still in effect. We declined to enter his home because our feet were so muddy and our clothes were so wet. A maid soon brought out to the veranda our drinks. Each glass had a narrow band of white sugar crystals on the inside of the rim which made it very inviting in appearance. As we sipped our drinks we chatted pleasantly with our host who seemed reluctant to see us leave. We thanked him as best we could for his kindness and hospitality and as we drove on could see him standing bareheaded before his door, and in the rain, until we finally passed from sight. We Americans could profit by learning the manners of some of these Latin gentlemen. (This was our station #39 b)

Returning to the Central Highway we continued towards Matanzas. Our next collecting station, #38, was alongside the road, Finca La Luisa, and from there we collected at a spot just west of Loma Camoa where some very large trees border the road on both sides. I do not know the variety of the trees but they were very attractive in appearance with their gnarled and very old looking trunks of great diameter. Overhead their branches formed a tunnel of green. This was station #53 from which we took *Cepolis* and large *Liguus crenatus*. Loma Camoa was just a short way beyond. It is really a rather large hill quite similar to one of the mogotes of Western Cuba except that its sides are not so steep and there is not the same preponderance of limestone cliffs so noticeable in the Viñales region. It is a heavily wooded mound which rises rather abruptly at the right side of the main highway after one has driven about 18 miles east of Havana. It is just to the west of the little village called Jamaica. On the other side of the road from the Loma Camoa is another hill somewhat smaller and called Somorrostro.

We decided to try our hands at collecting on Loma Camoa (#40) first and then to try our luck on Somorrostro. A light rain was falling as we approached Camoa from its western side and it was necessary to have a handhold upon a bush or tree where the going was steepest for the slope had become very slippery. The moisture had done us one good turn, however, for everywhere we saw swarms of snails literally covering the ground. While we took a number of small shells including *Chondropoma*, *Urocoptis philippiana* Pfr., etc., by far the most plentiful species was the large *Urocoptis humboltiana* Pfr., which seemed to be everywhere in abundance. We could even hear them crunching under our feet as we made our way up the hillside. After gathering what we thought to be a good representation of the species to be found we climbed down, crossed the Central Highway, and headed towards Somorrostro. (#41)

Passing a low stone-piled fence on the way in we proceeded to remove some of the top stones to search for *Urocoptis*. Bermúdez at once became quite excited and vainly endeavored to tell us something in Spanish. Of course we could not understand why we should not collect from the stones of this fence as we had done so often in the past from similar appearing fences. Finally Bermúdez laughingly took a pencil and a scrap of paper and drew a rough sketch of an insect which resembled, to some extent, a bee. At last we understood. There were many hornet's nests under the stones of that particular fence. We hunted for some time upon the sides and along the base of Somorrostro but did not find the shells nearly as plentiful as they had been on Loma Camoa just across the road. Perhaps it was because the sun had come out by this time and was beginning to dry up the ground causing the snails to seek concealment. Nearby we discovered the crumbled ruins of an old stone fort which Bermúdez explained had been used by the early revolutionists of Cuba.

After returning to the car we drove on thru the town of Jamaica which is little more than a railroad station and paused a short way beyond at San José de las Lajas (#43) to gather a few *Urocoptis*. At Ganuza the Carretera Central to Matanzas turns to the left but we decided to continue straight on towards Güines. Shortly before we reached the town of Carmen *Liguus* were sighted upon the trees alongside the road. They were a *Liguus fasciatus* of a very handsome form. With them were living *Cepolis* while upon the rocks were found a few *Urocoptis*. We all collected at this station (#42) for some time until it was suggested that we divide our party with Tom and Bud to walk along the road and gather shells as they went while Maxwell, Bermúdez and I were to drive on to a place beyond Güines at which point Bermúdez knew of a different form of *Liguus* which were yellow in color. We promised not to delay too long in returning to pick up the pedestrian members of the party and with wishing them the best of luck we left them busily engaged in poking shells off the trees with long bendy sticks.

We stopped a short way beyond at Loma de Candela (#44) to gather a very peculiar *Urocoptis* which lived alongside the road. It was *Urocoptis strangulata* Poey and most peculiar because in it the lamella is almost closed. Near here the road had been cut thru limestone hills leaving stratified walls of rock of quite some height upon either side. Güines was not far and we soon had passed thru this interesting town and were on the road to San Nicolás. It was only a few minutes ride from Güines to reach the habitat of the yellow *Liguus* (station #45). It was raining rather hard by this time but no one seemed to mind it very much. A search upon the trees and bushes which bordered the road soon disclosed a few specimens of this unusual *Liguus*. (It is now called *L. f. xanthius* Cl. & Ar.)

We did not find the shells very plentiful, however, and I fear that in our enthusiasm for collecting them that we quite forgot about poor Tom and Bud back on the muddy road "somewhere near Carmen." It was still raining lightly and our clothes were well soaked by the time we reluctantly turned our car around and headed back towards Güines. Dusk was beginning to fall as we passed thru the town and darkness was upon us before we had gone far beyond. The question arose in our minds as to how we would manage to find the rest of our party in the dark. There seemed to be no sign of them along the road and we were just wondering if possibly we had not passed by them and failed to notice in the darkness when a lusty shout was heard and we saw thru the darkness two very disheveled figures sitting upon a boulder at the side of the road. They were our "lost souls" sure enough and here they were having walked clear thru the town of Carmen and for some distance beyond. They had had very good results in the collecting and the rain had not dampened their spirits in the least. Hunger was beginning to grip us all by this time so we made a hurried drive back to Havana. Upon our arrival at the Maison Royale it was quite late and the dining room was almost ready to close. We had to eat in our damp collecting clothes or go without. My! How good the food tasted that night. Dr. Bermúdez stayed as our guest for dinner and during the course of the meal he intimated that he wished to learn to speak English. We at once gave him a lesson which consisted of pointing out to him the various utensils found at the dinner table and slowly repeating their names to him. He astonished us by being able to repeat to us some time later the name of each article in English. He tried giving us a similar lesson in Spanish but I fear that our own success was quite limited. At any rate we all enjoyed ourselves very much thru out the meal.

The following morning was spent in our hotel rooms where we busied ourselves over the preparation of specimens that had been taken in the last few days and making entries into our records of each habitat visited. The conchological branch of our party spent the afternoon with Dr. Torre at his home while Bud and I took the car and made a vain attempt to find the Tropical Gardens. After driving up this street and down that and stopping countless times to inquire the way we finally became disgusted and returned to the hotel unsuccessful.

The day following was Monday and Bermúdez had arranged to take us upon a trip to collect shells at Sitio Perdido. Maxwell had just received word from home that he was expected back before Thanksgiving. That meant that he would be obliged to take the steamer the next day and since there was some shopping he wished to do before leaving it was planned that he and Dad would spend the day in Havana. They planned to do the shopping in the morning and to spend the afternoon visiting with Dr. Torre at his home.

Tom, Bud and I picked up Dr. Bermúdez at his home bright and early in the morning and soon we were speeding eastward over the Carretera Central again. Remaining on the main highway until we reached the little town of San José de las Lajas (located just south of Jamaica) we turned to the left taking the country road leading to Tapaste. Before reaching Tapaste we paused at various points along the road to gather *Liguus* (*crenatus* & *fasciatus*) (#46). Just beyond Tapaste and from there almost to Mendoza we made similar stops to collect *Liguus fasciatus* and a few *Cepolis* (#47).

Just outside of Mendoza and upon the road to Jaruco we stopped at a place called Finca El Aljibe to collect upon the irregular stones of a rock fence. We succeeded in taking a few *Chondropoma*, *Eutodora* and *Urocoptis*. Near here Bermúdez directed us to take a narrow trail which led to the left and after a few minutes ride we reached a settlement of a few houses called Pozo Bonilla.

Bermúdez obtained permission at one of the houses to leave our car parked in the yard while we continued on foot. The narrow trail which we followed towards our collecting grounds was certainly never designed for an automobile. After walking a few yards Bermúdez spied some shells living upon the stones of a fence. A general search began and a number of *Urocoptis*, *Chondropoma*, *Eutodora*, etc., were found. Also *Eutodora jimenoi* Ar., *Megalomastoma apertum* Poey, and *Pleurodonte aricoma aricoma* were found living here. (Station #49)

As we hiked along over the rocky road we paused frequently to gather specimens but found practically the same things as had been taken at our station #49. It must have been a hike of five or six miles over a rocky and very rough terrain before we found ourselves in the heart of the Sierras. (Sierra de Jaruco) It was a very ragged section with countless mountains all about us. They somewhat resembled the mogotes of western Cuba but were perhaps not generally quite as large or so well isolated from each other. It was a very lonesome place I must say, however, for nowhere was there any sign of a human being or a human habitation.

Dr. Bermúdez suddenly sat down upon the ground and uttered a prolonged sigh. We had noticed that he had been limping slightly for some time but had thought nothing more serious than a blister on his foot was the probable cause. Now he seemed very tired and quite unlike himself and all of our attempts to question him concerning his condition brought no results. He had previously told us that four different *Urocoptis*, each having separate and definite habitats, lived upon the hills surrounding us. Since he had been here several times before we knew that he already had all of the forms represented in his own collection and suggested that he save himself from the unnecessary effort which visiting each of these separate habitats would involve. Couldn't he draw us a sketch map of the region showing where the forms could be found and allow us to hunt for them by ourselves? We supposed that after a bit of rest that he would do some leisurely collecting nearby while we were making the long hikes from *Urocoptis* habitat to habitat. Perhaps the collecting would not produce as many shells for him but then he might find some lizards or bugs which seemed to please him almost as much when he could get them. At first he insisted that he accompany us himself but finally we convinced him that it was quite unnecessary and that it would be better for him to remain and rest his foot. At last he agreed and proceeded to draw a sketch of each of the shells that we were to search for and a map showing where to find them. Before he would let us go he took us over to a thicket which was growing at the foot of a high hill and pointed out to us a species of plant which a few moments search disclosed. It had very large leaves, quite innocent appearing to the casual observer but if one very carefully turned one of these leaves over he could see countless spines of various sizes, each curved like a cats claw and all leaning the same way. Some of the cat-claws were half an inch long and very strong and it was easy to imagine what damage they could inflict to a careless collector especially because Bermúdez assured us that they were quite poisonous. We gladly added this to our list of plants to be avoided. Another plant called "guao" (*Comocladia dentata*) we already knew about. "Guao" has shiny small leaves quite like our Christmas holly but has an action upon some people quite like our northern poison ivy.

We thanked Bermúdez for his timely warning and started towards the search for the *Urocoptis* living upon the distant hills. By carefully following Bermúdez' sketch-map we collected upon the various hillsides and rocky cliffs and succeeded in obtaining practically all of the forms which we sought. It had been cool all day and most excellent for collecting so I fear that we stayed a bit longer than we realized or had intended to stay. We must have been away from Bermúdez for two or three hours when it suddenly occurred to us that perhaps he would tire of waiting. (This typifies the shell-collector quite adequately.)

Upon our return to our meeting place we found poor Bermúdez stretched out upon the cold damp ground (the sun was no longer shining) and quite unable to get up upon his feet. His hands were as cold as ice when we went to him and we were plenty worried about his condition. He was surely a game one, however, and his only comment was, "no, no mucha mal!" (No, not very ill.) Bud and I helped him to his feet and carried him for some way over the trail leading back to the car while Tom returned post-haste to the auto with the intention of driving it just as far as he possibly could to approach us. Bud and I found poor Bermúdez no featherweight and soon discovered that we did not have sufficient strength to carry him further. You must remember that we had about six miles to take him and that he was absolutely unable to walk by himself. The best we could do for him was to have him put his arms over our shoulders and we two walk beside him and support him as much of his weight as a tight grip upon his arms would allow. Of course this was far from comfortable for him and it was necessary to pause every few minutes and let him rest his arms a bit. The poor chap was in great pain and as near as we could make out the trouble was in his legs and back. At times we could feel him quiver violently as he endeavored to bear the intense pain in silence and then great beads of perspiration would form upon his forehead altho it was now quite late and rather chilly. It was certainly a wonderful demonstration of real pluck for he never once complained and his one answer to all our questions was still "No mucha mal." Here was a true-born naturalist if there ever was one for even thru the agony and suffering of that trip he utilized his "rest-periods" in gathering specimens along the side of the trail!

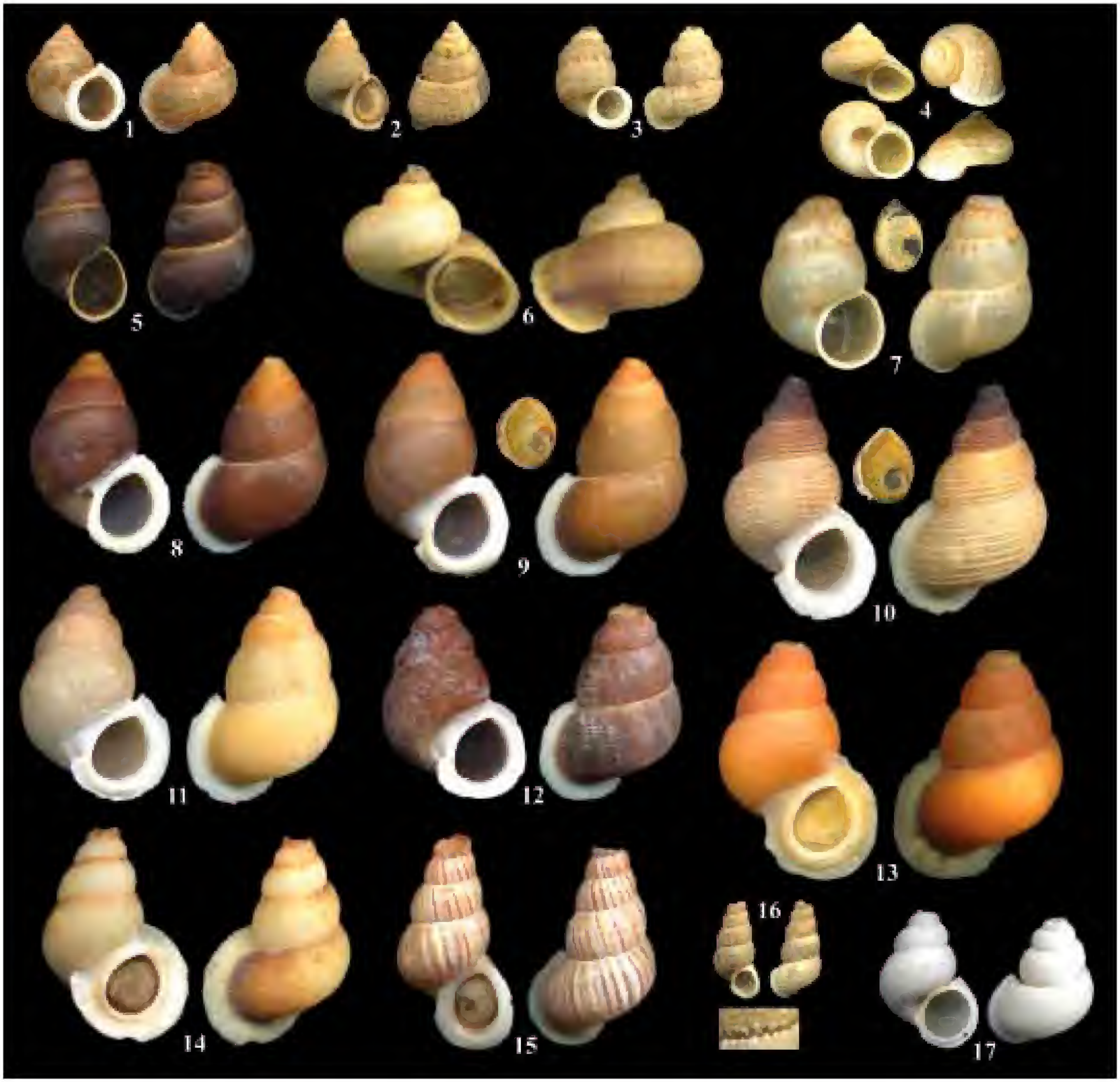
Bud and I thought we would never get the poor fellow out of the terrible predicament but finally when it was quite dark we reached the car. Tom had been able to progress but a short way over the rocky trail with the car. We bundled Bermúdez up in our coats and sweaters and put him in the front seat of the car where he would not be in the cold wind. At the first town we got a cup of strong coffee for him. He apparently didn't want us to bother about him at all but we insisted upon his taking the hot coffee. (All attempts to have him take an alcoholic stimulant were unavailing.) He intimated that he felt better after the warm drink, however.

Tom was driving the car on the way back towards Havana and perhaps he was traveling a bit faster than he should have been in his anxiety to reach the city and get Dr. Bermúdez under the care of a physician. Just after passing an approaching car with blinding headlights our own lights showed us two motorcycle policemen ahead and no time to spare. They were heading in opposite directions and had paused to talk across the road. All their lights were out as is the custom here for all parked vehicles! Tom saw them just in time to swerve to one side and avoid striking the man on the right side of the road but that was not to be the conclusion of the incident for one of the men had come in rapid pursuit and ordered us to stop. We didn't know what to do for we couldn't understand a word that he was saying and he likewise could get nothing that we said. Bermúdez came to our rescue and carried the conversation and saved us from trouble. Unfortunately we had left our papers given by the Cuban Army back at the hotel in Havana and the most impressive looking document that we could produce was our "Certificate of Title of Motor Vehicle." We showed this to the officer who carefully examined it for some time. Of course he couldn't read a word upon it and had no idea as to what it was but then it had the seal of the State of Michigan upon it and perhaps that alone saved us from spending time in a county jail. The officer finally returned our certificate, said a polite "adiós" and with a wave of his hand was off in the other direction upon his machine. I don't know just what Bermúdez told him to this day but whatever it was it caused the policeman's attitude towards us to change very suddenly for the better. We later learned that the thing that most baffled the officer was the statement given him by Bermúdez that he spoke no English and that we all spoke no Spanish. He simply couldn't believe that such could be possible!

It seemed that we had been traveling hours but it was really not long before we were back in Havana and had taken Bermúdez to his home and seen to it that he would have a doctor to attend him. Back at the hotel we found Dad and Maxwell anxiously awaiting our return. They were of course very sorry to hear about Bermúdez' sickness. I guess that we were all a bit blue that night thinking of poor Bermúdez and knowing that in the morning at ten o'clock Maxwell was to take the steamer for Key West. We certainly hated like the mischief to see him leaving us for we had had one glorious time together.

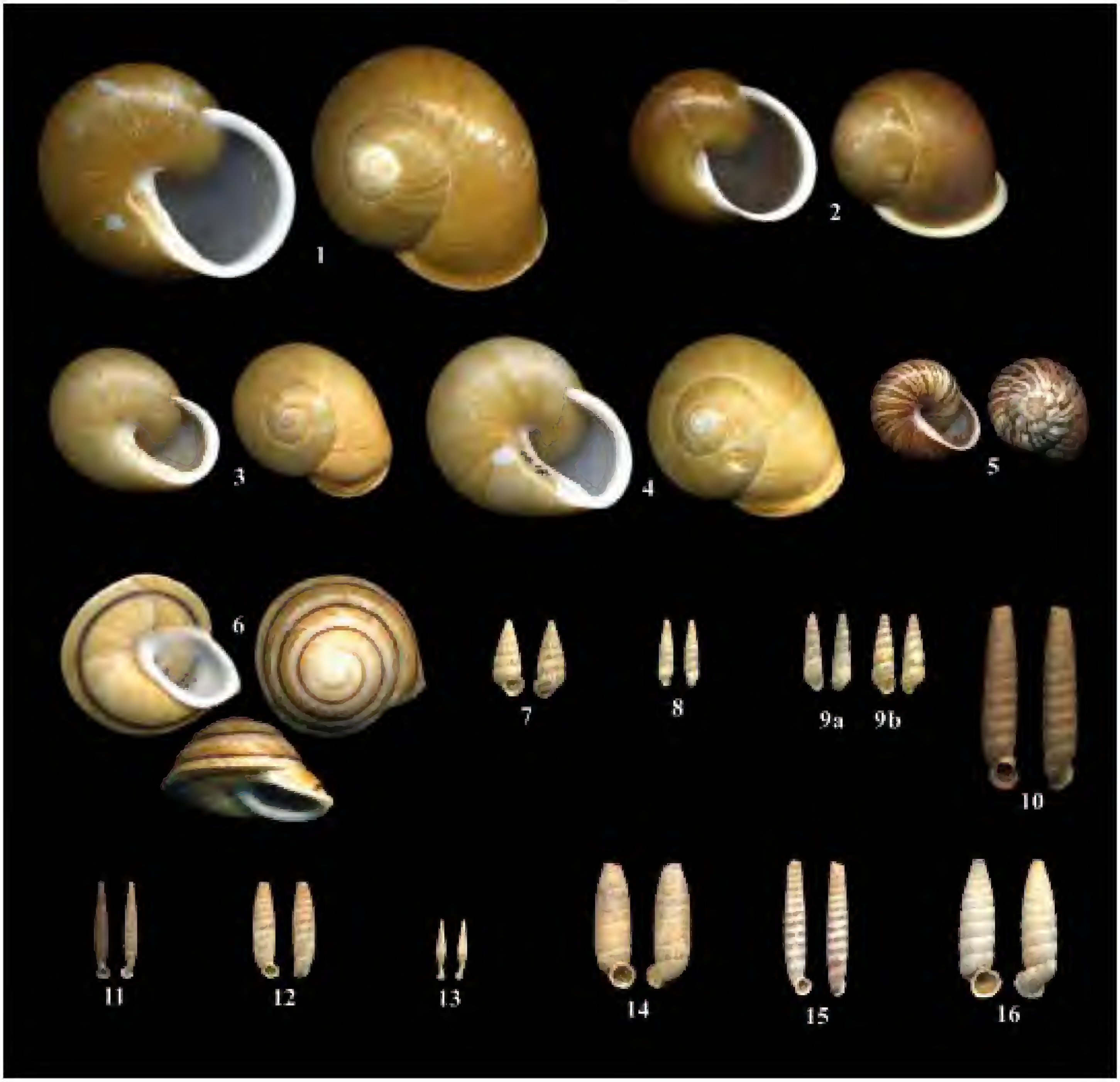
(This completes part two of the three part article on collecting in Cuba in 1930 by Paul McGinty. The series will end with part three in the next issue. Following this article are several plates of Cuban landsnails to give the reader some idea of what McGinty and party were collecting. There are probably more than 1,400 species of landsnails in Cuba, so this presentation just scratches the surface. The more well-known *Liguus* and *Polymita* will be illustrated following part three in the next issue.)

Some Pomatiidae (Annulariinae) of Cuba



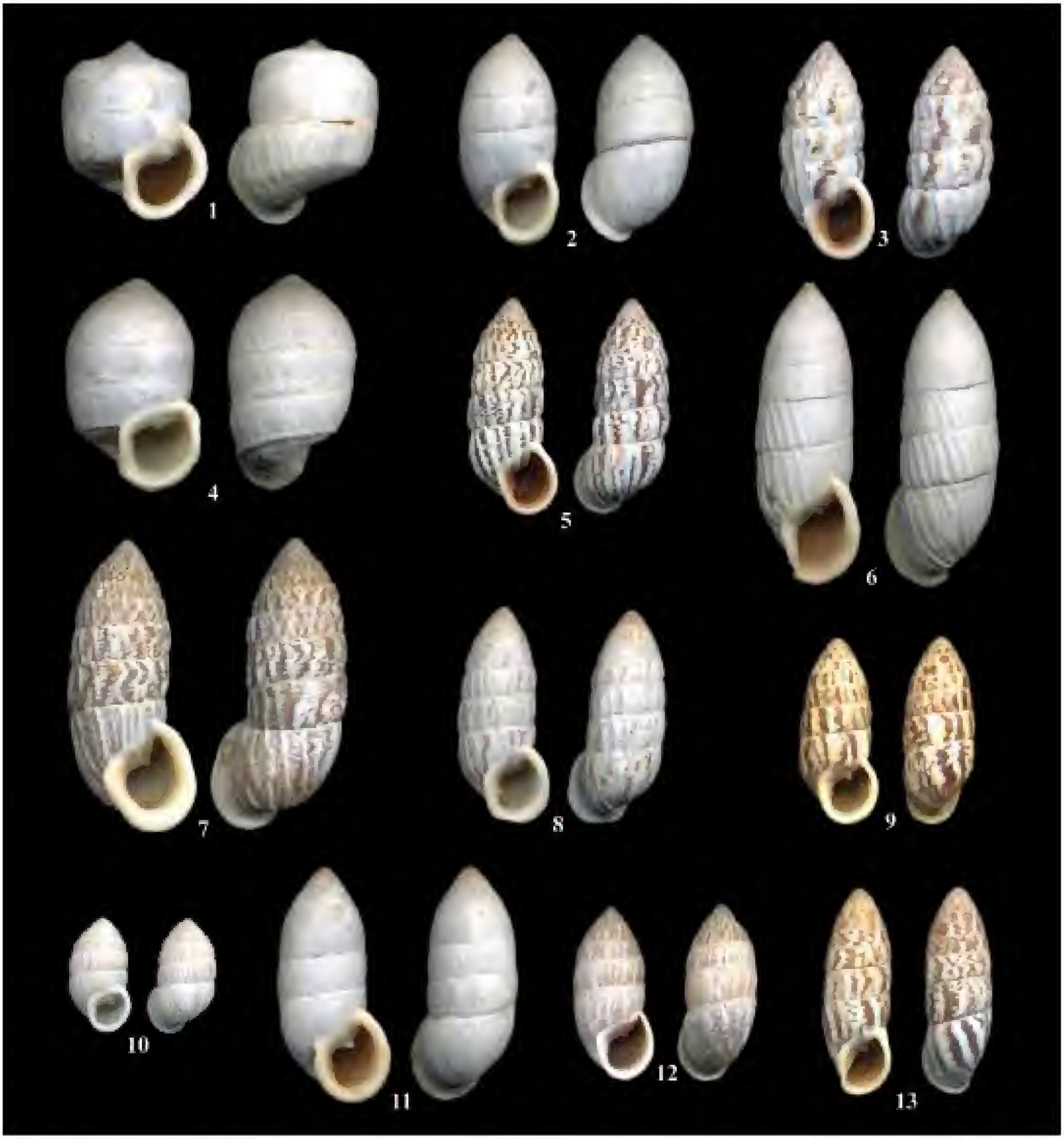
1. *Annularia* (*Eutadora*) *limbifera limbifera* (Menke in Pfeiffer, 1846) 14mm, Matanzas. 2. *Annularia* (*Eutadora*) *transitoria* (Torre & Bartsch, 1941) 14mm, Havana. 3. *Annularia* (*Eutadora*) *terneroensis* 12mm (Torre & Bartsch, 1941), Las Villas. 4. *Annularisca mackinleyi* (Gundlach in Pfeiffer, 1859) 12mm, Yateres. 5. *Chondropoma pictum* (Pfeiffer, 1839) 19mm, Matanzas. 6. *Chondropoma torrei* (Torre & Bartsch, 1838) Viñales. 7. *Chondropoma yucayum* (Presas in Pfeiffer, 1863) 22mm, Matanzas. 8. *Chondrothyra discolorans* Pfeiffer, 1863, 24mm, Viñales. 9. *Chondrothyra incrassata* Pfeiffer, 1863, 25mm, Viñales. 10. *Chondrothyretes affinis* Torre & Bartsch, 1938, 30mm, Viñales. 11. *Chondrothyretes ata* ((Pfeiffer, 1862) 27mm Viñales. 12. *Chondrothyretes barbouri* Torre & Bartsch, 1938, 25mm, Viñales. 13. *Chondrothyretes egregia* Pfeiffer, 1856, (form *aurantia*) 28mm, Pinar del Rio. 14. *Chondrothyretes impressa* Torre & Bartsch, 1938, 26mm, Viñales. 15. *Hendersoniana hendersoni* (Torre, 1909) 25mm, Cajanale. 16. *Parachondria chordata* Torre & Bartscg, 1941, 11mm, Orienta. 17. *Rhytidothyra bilabiatum* d'Orbigny, 1842, 14mm, Viñales.

Some Camaenidae (1-4), Helminthoglyptidae (5), Pleurodontidae (6), & Urocoptidae (7-16) of Cuba



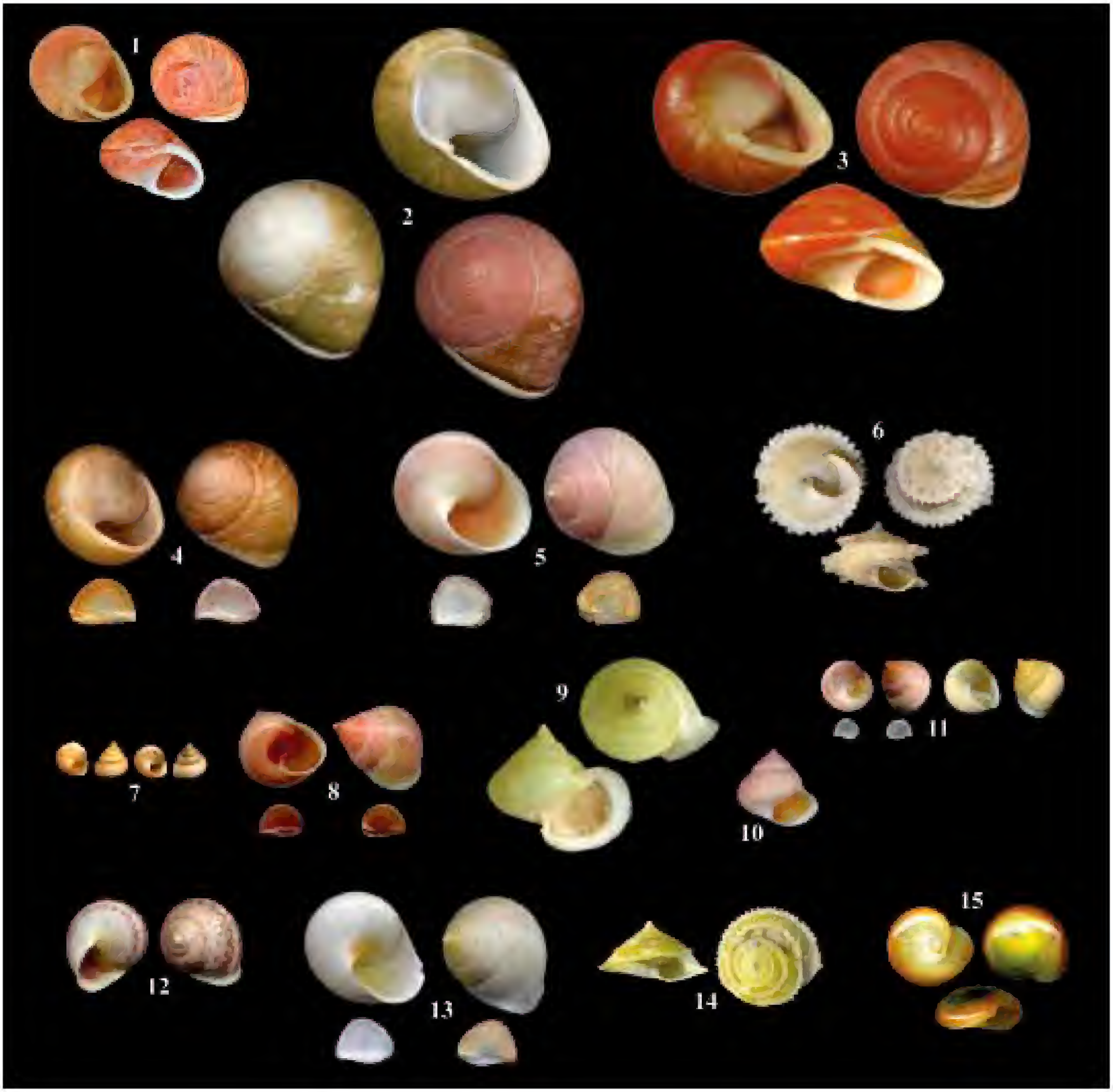
1. *Eurycratera guanensis* (Poey, 1858) 45mm, Viñales. 2. *Zachrysia auricoma* (Ferussac, 1821) 32mm, Matanzas. 3. *Zachrysia guantanamensis (*Poey, 1858) 29mm, Oriente. 4. *Zachrysia rangelina* (Pfeiffer, 1854) 36mm, Viñales. 5. Cepolis alauda (Ferussac, 1821) 20mm, Oriente. 6. *Caracolus sagemon* (Beck, 1837) 31mm, Baracoa. 7. *Macroceramus unicarinatus* (Lamarck, 1822) 12mm, Cuba. 8. *Obeliscus gonostoma* (Gundlach in Pfeiffer, 1863) 10mm, Cuba. 9a-b. *Obeliscus homalogyrus* (Shuttleworth in Pfeiffer, 1851) 13mm, Cuba (there were two different species in this lot, identifications uncertain). 10. *Pycnoptychia humboldtii* (Pfeiffer, 1840) 30mm, Havana. 11. *Urocoptis anafensis* (Pfeiffer, 1864) 15mm, Cuba. 12. *Urocoptis caeruleus* Poey, 1874, 15mm, Cuba. 13. *Urocoptis exquisita* Clench & Aguayo, 1949. 14. *Urocoptis oriedrea* d'Orbigny 20mm, Havana. 15. *Urocoptis pruinosa* (Morelet, 1849) 20mm, Cuba. 16. *Urocoptis vignalensis* Wright in Pfeiffer, 1864 22mm, Viñales.

Some Cerionidae of Cuba



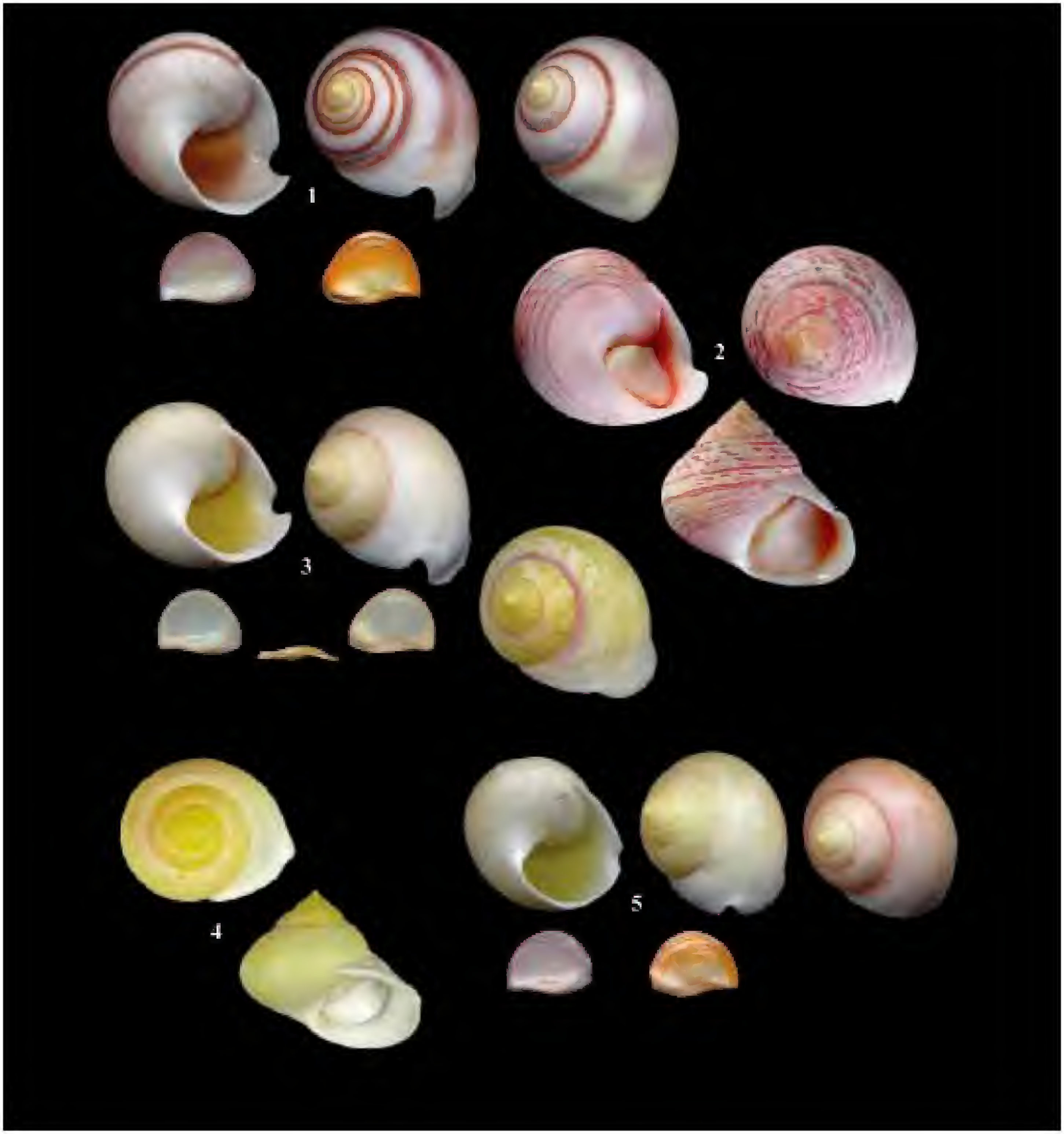
1. *Cerion alberti* Clench & Aguayo, 1949, 24mm, Cuba. 2. *Cerion bequaerti* Torre & Clench, 1932, 29mm, Cuba. 3. *Cerion chrysalis* (Beck, 1837) 29mm, Havana. 4. *Cerion dimidiatum* (Pfeiffer, 1847) 29mm, Gibara. 5. *Cerion gigantea* Sanchez-Roig, 1951, 30mm, Cuba. 6. *Cerion infandum* (Shuttleworth in Poey, 1858) 40mm, Matanzas. 7. *Cerion magister* Pilsbry & Vanatta, 1896, 38mm, Matanzas. 8. *Cerion moreleti* Clench & Aguayo, 1951, 28mm, Isles of Pines. 9. *Cerion mumia* (Bruguiere, 1792) 25mm, Cuba. 10. *Cerion pineria* Dall, 1895, 15mm, Cuba. 11. *Cerion salvatori* Torre in Pilsbry, 1927, 29mm, Havana. 12. *Cerion vanattai* Clench & Aguayo, 1951, 24mm, Havana. 13. *Cerion vulneratum* Kuster, 1855, 28mm, Cuba.

Some Helicinidae of Cuba



1a-c *Emoda crassa* (d'Orbigny, 1841) (13mm) Cuba. 2a-c *Emoda sagraiana* (d'Orbigny, 1842) (25mm) Cuba. 3a-c *Emoda sagraiana percrassa* Aguayo & Jaume, 1954 (24mm) Cuba (Rich Goldberg photo). 4a-b *Emoda submarginata* (Gray, 1824) (15mm) Cuba. 5a-b *Eutrochatella acuminata* (Poey, 1851) (16mm) Cuba. 6a-c *Eutrochatella costellata* (Pfeiffer, 1850) (13mm) Cuba. 7a-d *Eutrochella fuscula* (Pfeiffer, 1863) (4mm) Cuba. 8a-b *Eutrochatella jugulata* (Poey, 1858) (12mm) Cuba. 9a-b *Eutrochella petitiana* (d'Orbigny, 1842) (12mm) Cuba (Guido & Philippe Poppe photo). 10 *Eutrochatella remota* (Poey, 1858) (11mm) Cuba. 11a-d *Eutrochatella scopulorum* (Morelet, 1849) (6mm) Cuba. 12a-b *Helicina adspersa* Pfeiffer, 1839, (10mm) Cuba. 13a-b *Helicina columellaris* Gundlach, 1857 (15mm) Cuba. 14a-b *Priotrochatella torrei* (Clapp, 1918) (12mm) Cuba. 15a-c *Proserpina depressa* (d'Orbigny, 1842) (5mm) Cuba.

Some Helicinidae of Cuba (cont'd)



1a-c *Viana regina laevigata* Pfeiffer, 1865 (23mm) Cuba. 2a-c *Viana regina marmorata* (Torre, 1950) (24mm) Cuba. 3a-c *Viana regina multistriata* (Pfeiffer, 1865) (24mm) Cuba. 4a-b *Viana regina subunguiculata* (Poey, 1859) (24mm) Cuba. 5a-c *Viana regina regina* (Morelet, 1849) (21mm) Cuba. Males have the notch in the outer lip.

Mistaken identity

The cover of the last issue featured a well-known murex from the west coast of the US, *Pteropurpura trialata* (G.B. Sowerby II, 1834). The shell was beautifully photographed by Charles Rawlings, but then misidentified as *Ceratostoma foliatum* (Gmelin, 1791) when I placed it on the front cover. I apologize for the mix up, which was caught by quite a few readers. Below are properly identified specimens of both west coast species. While the most common color pattern of the species is as shown, both can appear with brown spiral bands or with a solid white shell.

Tom Eichhorst

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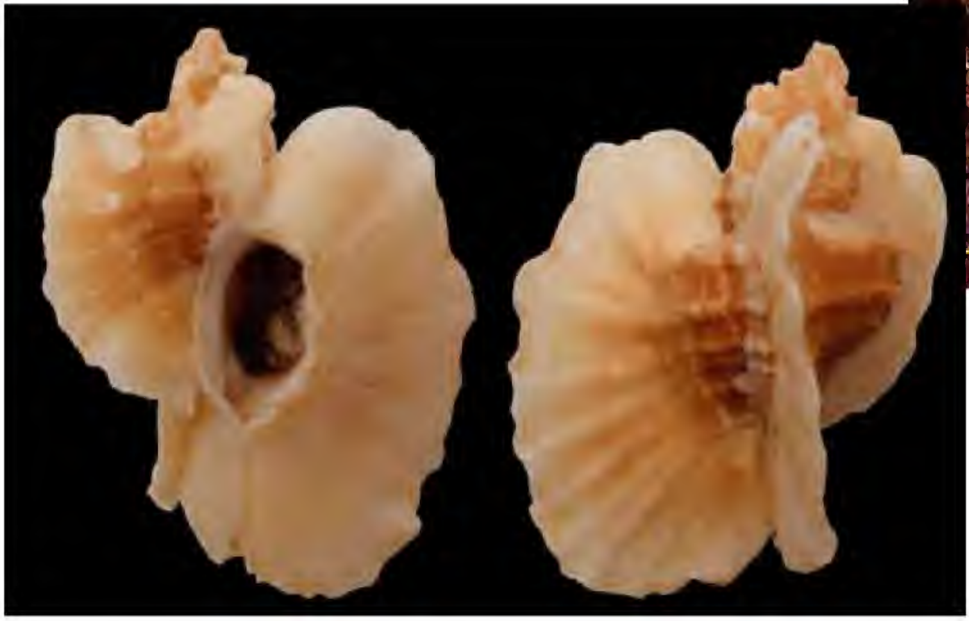
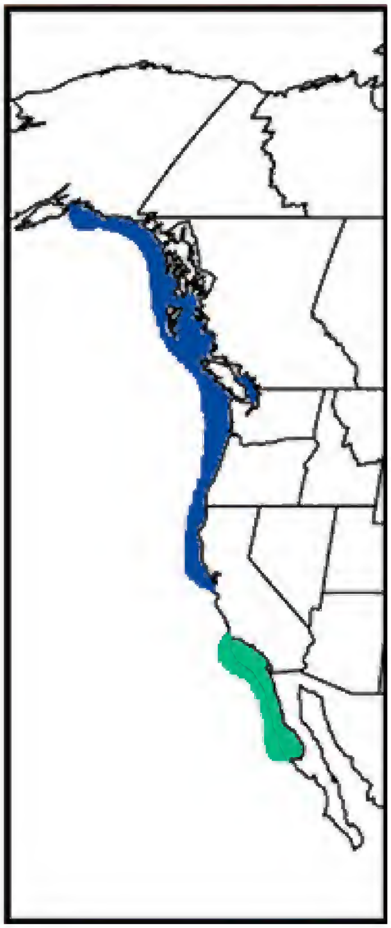
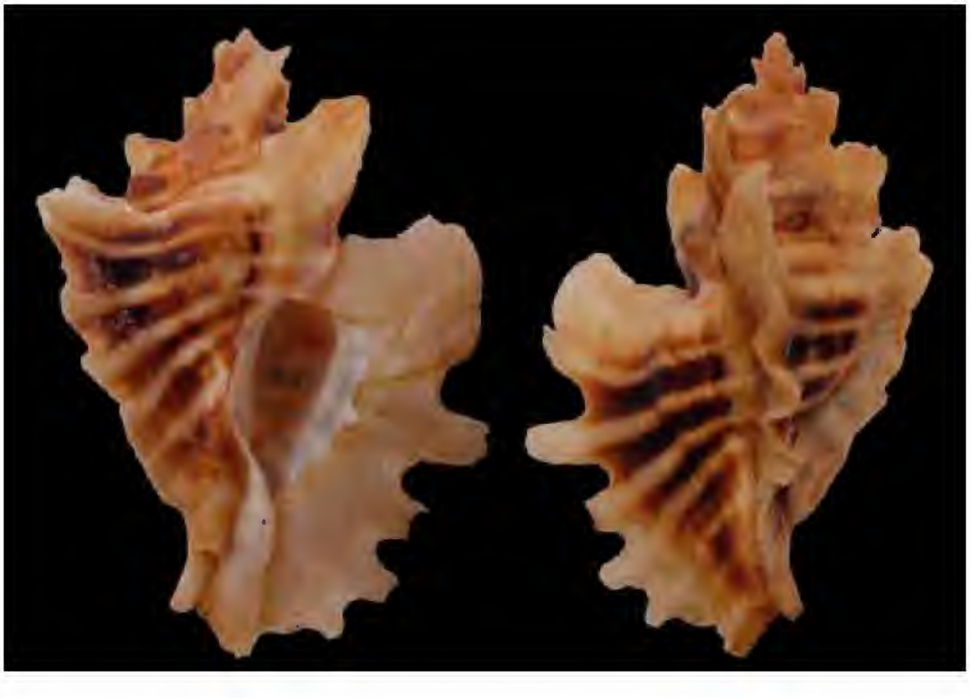


Ceratostoma foliatum **(Gmelin, 1791) 60mm, California, USA (range in blue).**





Pteropurpura trialata **(G.B. Sowerby II, 1834) 62mm, California, USA (range in green).**

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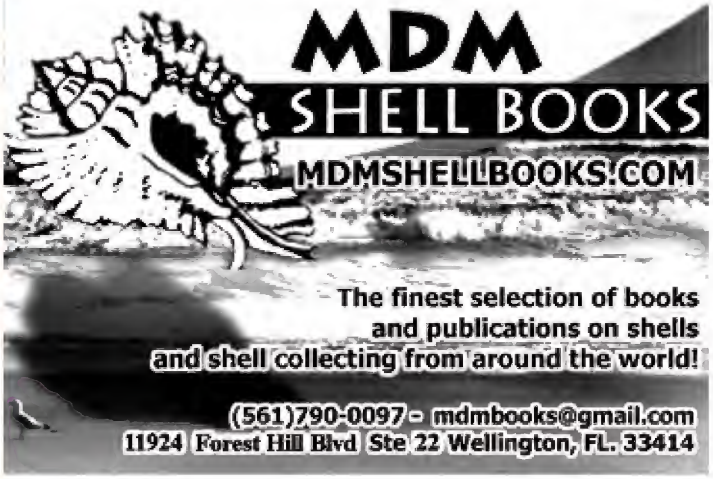

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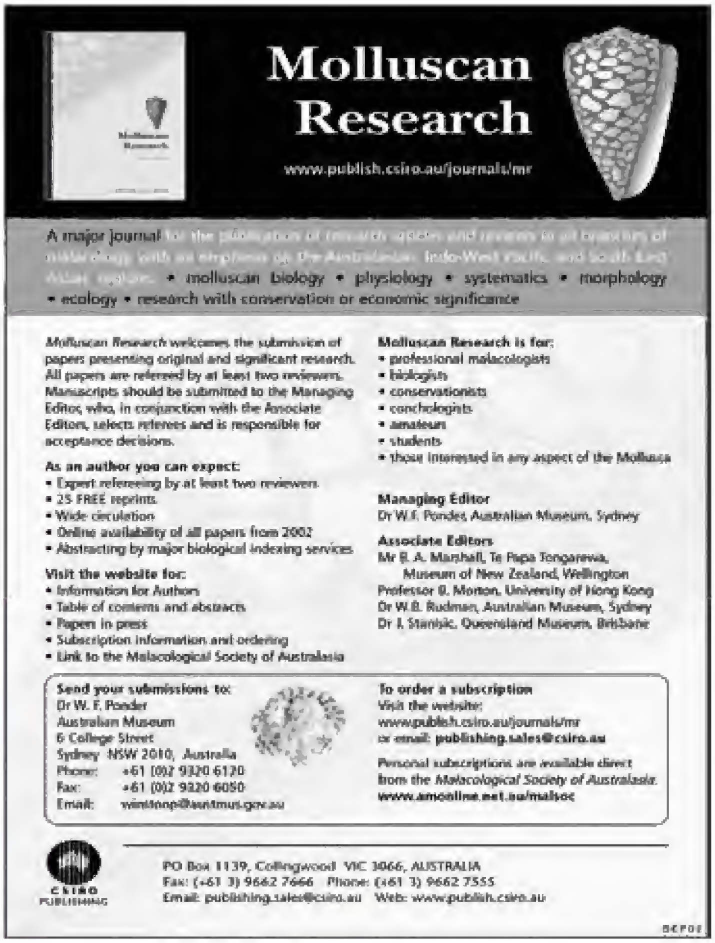

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In memoriam:

Barbara Elliot (see page 30)
Judy Lynn Goldberg
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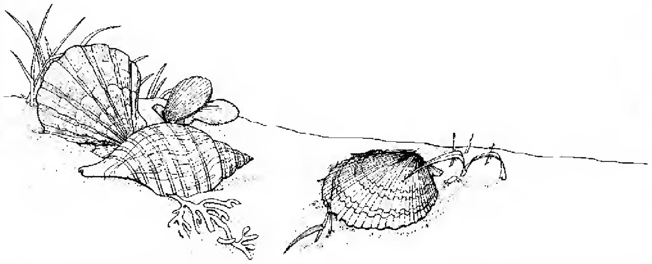

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Some cone snails have insulin infused venom

as reported by David Shultz
19 Jan 2015
in *Biology, Plants, & Animals*

We all know that Conidae are venomous, with complex venoms that in some cases have proven fatal to man. To the hundreds of peptides that have been found in cone venom can now be added a new ingredient, insulin. As reported by David Shultz in *Biology, Plants, & Animals*, the fish-eating cones, that envelope their prey in a net-like fashion (rather than a quick stab with a harpoon-like radula), use what has been termed Con-Ins G1 as part of their venom complex, termed a nirvana cabal. The hormone with Con-Ins G1 is thought to lull or partially sedate a cone's prey while it is being enveloped. It is hoped that study of this insulin and how it is produced by the different cones will lead to a better understanding of human insulin and how it is regulated (often-times not as well as it ought to be) by the human body. Cones thought likely to produce insulin include *Conus geographus* (above) known as potentially deadly to humans.

An ersatz *Valvata* from Bernheim Forest, Kentucky

by Harry G. Lee

The intersection of mollusk shells and productions of creatures assigned to other phyla was imprinted in my mind early on. As a college freshman, I found several specimens of an unfamiliar ~ 5 mm snail living on rocks at the bottom of a brook tributary of the Hoosic River in Williamstown, MA. Only after a few days had passed, when I viewed them under the stereoscope in the biology lab, did I see that these shells were composed of cemented mineral grains and that each contained a bristly worm-like critter. The "conchological" resemblance to certain species of the genus *Valvata*, e.g., <http://www.jaxshells.org/p10034.htm>, however, was nonetheless still quite uncanny.

I regret that I promptly lost track of these MA "shells," but in 1976 I placed some similar specimens collected by a botanist friend from a creek near Piha Beach, Watakaries, North Is., New Zealand, in my collection. A third encounter occurred on October 19, 2014, when I found another bunch of these oddities living on small near-shore rocks at the confluence of Wilson and Harrison Creeks in the Bernheim Arboretum and Research Forest, Nelson-Bullitt Cos., KY [Fig. 1]. The habitat was eerily reminiscent of my first encounter over a half-century before, and the find launched a "cold case" investigation into this mystery.

Over a century before the first of the above events, Philadelphian Isaac Lea, who with some regret I must admit is neither an ancestor or even a close relative of mine, had a similar encounter. Lack of kinship notwithstanding, Dr. Lea shared my initial read on such "shells," and dubbed them *Valvata arenifera* [Latin: sand-bearing] (I. Lea, 1831: 104-105, pl. 15, figs. 36a-b); see Figs. 3 (next page) and 5 (end of article). Although depicted as opposite (counterclockwise) in direction of growth, these objects are quite reminiscent of my MA material. The Quaker's specimens came from Nashville, TN, where they were taken from the Cumberland River. Lea convinced himself he saw opercula in his specimens, and he believed the agglutinated mineral matter was simply a reinforcement of the snails' shells.

The following year Constantine Rafinesque (1832: 122; fig. on p. 121 <http://tinyurl.com/qzqayzn>) named a "new tubular fresh water shell of the Alleghany *[sic]* Mts." *Psephides paradoxa* n. gen., n. sp. Not certain it was the production of a mollusk, he did write: "This strange shell has something mysterious in it. It appears a mass of gravel; strongly cemented ..." The figure depicts a tubular structure of the same fabric seen in my and Lea's shells. Although "conchologically" quite distinct, I think neither Lea nor Rafinesque, would find the eventual taxonomic proximity, not to mention placement, of their respective species anything short of incredible. Nearly as incredible is the fact that no further mention of the Rafinesque genus (or species) except Neave <http://tinyurl.com/n6hs493> could be found in the literature.

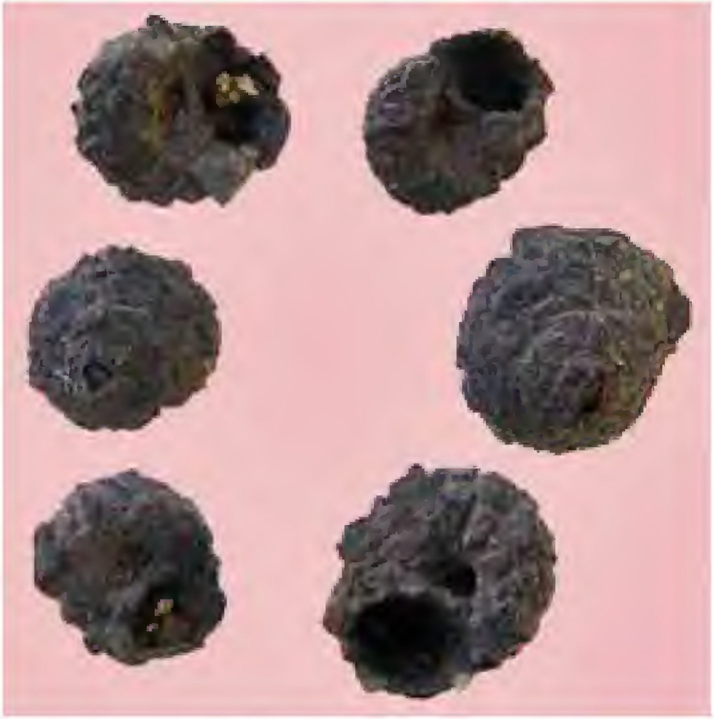


Fig 1. These small (~5 mm) portable caddisfly cases made of cemented together aggregate protect the larval form of the insect prior to final development and emergence. Caddisflies are found worldwide and similar cases in New Caledonia (20 mm) have recently been offered as unknown mollusks on auction sites online.

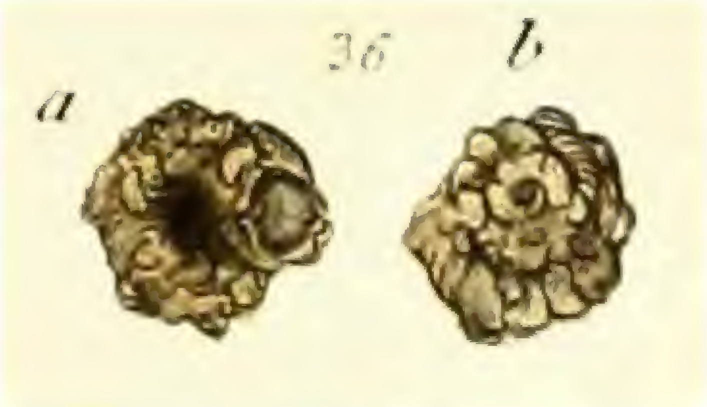
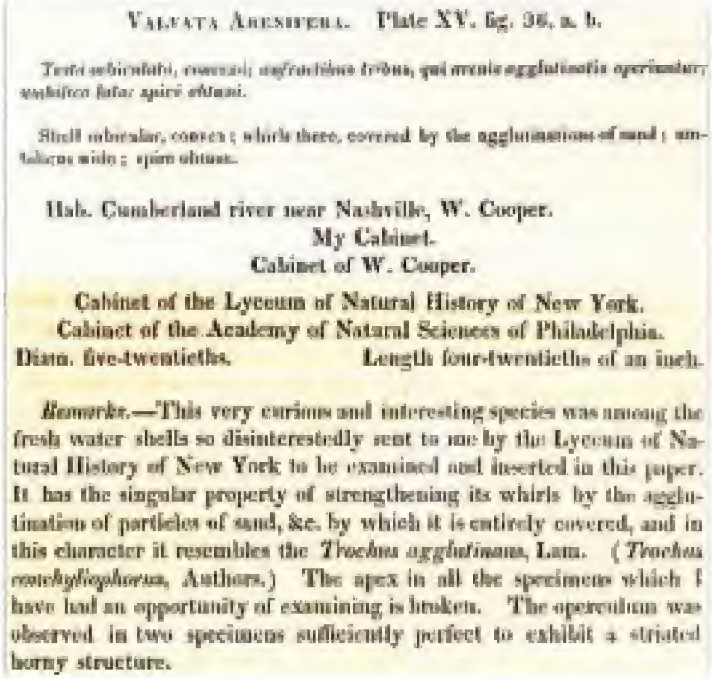


Fig 2. The figures in Lea labeled *Valvata arenifer*, **pl. 15, figs. 36a-b.**

Not much later Thomas Swainson (1840) treated a shell looking even more like my MA specimens, his *Thelidomus braziliensis*, as a gastropod mollusk. The nomenclatorial context of this action was almost as bizarre as the animal involved and would benefit from a short



VALVATA ARENIFERA. Plate XV. fig. 36, a. b.

Testa orbiculata, convexa; anfractibus tribus, qui arenis agglutinatis operiuntur; umbilico lato; spirâ obtusâ.

Shell orbicular, convex; whorls three, covered by the agglutination of sand; umbilicus wide; spire obtuse.

Hab. Cumberland river near Nashville, W. Cooper.
My Cabinet.
Cabinet of W. Cooper.
Cabinet of the Lyceum of Natural History of New York.
Cabinet of the Academy of Natural Sciences of Philadelphia.
Diam. five-twentieths. Length four-twentieths of an inch.

Remarks.—This very curious and interesting species was among the fresh water shells so disinterestedly sent to me by the Lyceum of Natural History of New York to be examined and inserted in this paper. It has the singular property of strengthening its whirls by the agglutination of particles of sand, &c. by which it is entirely covered, and in this character it resembles the *Trochus agglutinans*, Lam. (*Trochus conchyliophorus*, Authors.) The apex in all the specimens which I have had an opportunity of examining is broken. The operculum was observed in two specimens sufficiently perfect to exhibit a striated horny structure.

Fig. 3. The comments by Lea concerning his strange new find. The common name is the snail-case caddisfly.

explanation. The author actually proposed the genus-group *Thelidomus* twice - and in the same work (1840: 191-192, 330; and 228, 353)! The first usage appears without mention of any constituent species on p. 191-192. That taxon was made available on p. 330, where its monotype is given as *Helix striolata* Guilding [now known to be a synonym of the camaenid *H. incerta* Férussac, 1821]. The second usage of this generic epithet initially pops up on p. 228 next to text figure 41, which depicts a "shell" very much like mine, but with no associated species group name. On p. 353 the name *Thelidomus* reappears again with the same text figure (now no. 113), however, this time "*Braziliensis* Sw[ainson]," the monotype, appears in the text block [Figure 5].* Years later, the Fist Reviser, Henry Pilsbry (1894: 96) remedied this shocking example of Swainsonian homonymy. He gave the land snail seniority based on "position priority" (page number 330 vs. 353), an attribute which no longer mandates such preference, and indicated *Thelidomus* (Swainson, 1840: 353) made *Thelidomus* Swainson, 1840: 353 *non* Swainson 1840: 330 permanently invalid.

Sensing that nobody had put a generic name on such shells, but possibly quite ignorant of the *Thelidomus* fiasco, Carl Theodor Ernst von Siebold named the group *Helicopsyche*. The German zoologist, well-grounded in entomology, was a bit more savvy and thoroughness than his predecessors cited above. Not only did he realize these shells were the product of caddisfly larvae rather than gastropods, he mentioned the likelihood that Lea's *Valvata arenifera* was a congener. He even lifted and republished its type figure in support of his assertion!

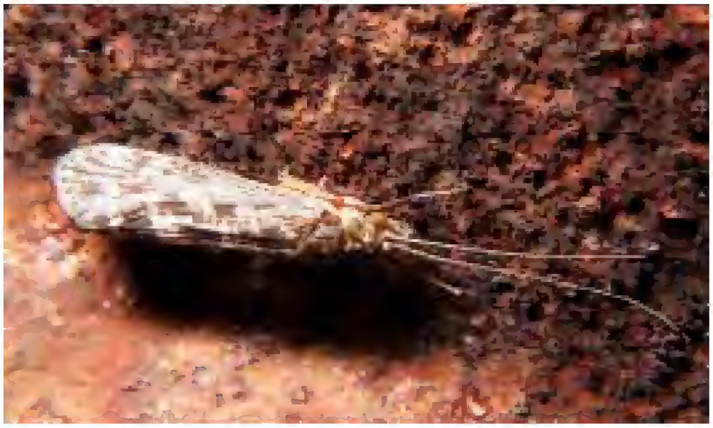


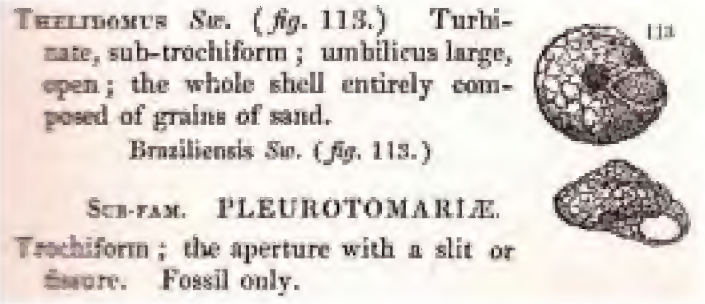
Fig. 4. A similar caddisfly after metamorphosis from the larval stage in the aggregate case. Photo from Wikipedia.com.

A taxonomic recap of these snail impersonators is provided by the Entomology Dept., Swedish Museum of Natural History at: <http://www2.nrm.se/en/helicolist.html.en>:

-Phylum: Arthropoda
-Class: Insecta
-Order: Trichoptera (caddisflies)
-Family: Helicopsychidae Ulmer, 1906 [four genera]
-Genus: *Helicopsyche* von Siebold, 1856 [~ 230 named species in five subgenera].
-Type species: *Helicopsyche shuttleworthi* von Siebold, 1856 [subsequent designation Flint, 1964].

Helicopsychidae is worldwide in distribution. Interestingly, in the above system *Valvata arenifera* Lea, 1834 [*sic; error pro* 1831] is treated as an invalid synonym of the later name, *Helicopsyche (Feropsyche) borealis* (Hagen, 1861). Perhaps a worker somewhere along the way overturned the priority of the Lea name by invoking the *nomen oblitum* option (translation: "forgotten name" ICZN 1999, Article 23.9).

Whether von Siebold was the first to recognize the caddisfly as the perpetrator of this inter-phylum imposture is not clear, but his taxonomic initiative struck the path for proper understanding of the players involved. This



THELIDOMUS *Sw.* (*fig.* 113.) Turbinate, sub-trochiform; umbilicus large, open; the whole shell entirely composed of grains of sand.
Braziliensis *Sw.* (*fig.* 113.)

SUB-FAM. PLEUROTOMARIÆ.
Trochiform; the aperture with a slit or fissure. Fossil only.

Fig. 5. Swainson's *Braziliensis* (fig 113) and his note about fossil Pleurotomariea.*

geographically far-flung conchological masquerade is a stunning instance of evolutionary convergence in the geometry of an animal production - approached, but not exceeded only by certain tubicolous polychaete annelids and symbiotic arthropod-anthozoan (final plate of Abbott and Dance, 1982), and arthropod-bryozoan <http://www.jaxshells.org/jdawley.htm> species.

* Note the entry that follows in Swainson's work states that pleurotomarians are known only as fossils. The first living species, dubbed *Pleurotomaria quoyana* by Paul Fischer and A.C. Bernardi the same year as von Siebold named *Helicopsyche* <http://www.jaxshells.org/quoyana.htm>, was discovered in 1855, 15 years later (Dance, 1969: 47).

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Harry G. Lee
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Barbara Jean Elliott

May 9, 1936 – December 31, 2014

"Somebody's been to Sanibel," I said out loud, looking at the glass jar of shells on a desk in the new office where I would be working in Andover, Massachusetts. "How did you know that?" she said from behind me. It was Barbara Elliott. Thus began a thirty-one year friendship. Barbara and I shared a mutual boss at the Internal Revenue Service Center. With our other mutual interest in shells, we began having lunches together and quickly included our respective spouses in the friendship, my Gayle and her John. Barbara Jean had worked for a trucking company as a secretary and dispatcher. Talking on the radio with the drivers in and around Colorado is how she came to know her future husband, John. Although they had no children together, John had two daughters by a previous marriage. After their marriage, Barbara took on the role of step-mother.

By the time Gayle and I met them, John had switched careers from driving a truck to that of brokering insurance contracts with large trucking companies and rental car companies, including Avis. His new employer was Liberty Mutual Insurance Company, which was located in Boston. Barbara was surprised to learn that there were other shell collectors out there, and especially as close as Cambridge - The Boston Malacological Club. She quickly took a turn as secretary of the club in the early 1980s and then took over as editor of the fledgling club newsletter in the mid-1980s, renaming it *The Epitonium*, after her favorite genus of shells, a name that remains today.

When John had a great career opportunity with Progressive Insurance Company to move to Cleveland, Ohio, Barbara reluctantly said good-bye to her Boston area friends. Gayle and Barbara were already, and continued to be, best friends, for the next three decades, and talked nightly by phone.

We attended several conventions with Barbara. The first was the COA in 1984 at the Don CeSar Hotel in St. Petersburg, Florida. It was a glorious time, when we all satisfied our greatest conchological wishes with pleasures far beyond our expectations. Then there was the COA convention in Philadelphia in 1985. We were just finishing our dessert at the banquet when the doors burst open, and from every exit, in marched a band. We looked at each other and Barbara, and said: "This sounds like the Mummers… This REALLY sounds like the Mummers. Wait a minute. This is Philadelphia, where the Mummers come from. This IS the Mummers!" It seems that one of the Philadelphia shell club members had a son in the band and they came to perform in thanks for what his mother had done for them. What an experience!

We attended the 1987 COA convention in St. Louis, "at The Arch," where we met Alan Gettleman and the other fine local shell people, and where we became shell dealers for the first time. Although Gayle and I did not attend another convention for a number of years, while our son, Braden, was still very young, Barbara did attend most conventions and usually roomed with her dear friend from the Cleveland Shell Club, Sherlee Palladino.

Barbara returned to the Boston area several times after moving away and during most of those visits, she would stay at our cottage in North Andover, where she would enjoy spoiling our son, Braden, just like a grandmother would do. At an early age, before Braden could say "Barbara," his closest approximation would come out "Beanbop," a name that stuck for the rest of Barbara's corresponding years. We never knew if it was the difficulty he had saying Barbara or if it had to do with the jelly beans that she frequently gave him. Even Gayle and I began calling her "Beanbop," and she would sign her cards and gifts: "from Beanbop." To us, Barbara was not just a friend - she was part of our family, Braden's adoptive grandmother, and words cannot describe how much she will be missed by the three of us.

Barbara attended the 100th anniversary of the Boston Malacological Club in April of 2010 at the prestigious Harvard Club of Boston, and then returned a second time that year in August with Sherlee Palladino for the COA convention at the Boston Park Plaza Hotel in downtown Boston.

Although Barb's collection was mostly marine, she also had a world-class collection of Florida *Liguus*, probably one of the top five collections in private hands anywhere. She obtained these either directly from Archie Jones, or from a very high grade collection owned by Bashie Kurswiki, a former member of the Boston Malacological Club who decided to sell that collection to Barbara. She also purchased a large collection of *Liguus* and Cuban snails from a collector named Butch in the Cleveland Shell Club.

Barbara also had a very extensive collection of Epitoniidae, her favorite family. The Marginellidae were her second favorites, and were collected through decades of work with Bob and Betty Lipe of St. Petersburg. Her third favorites were the Cypraeidea, and we were able to supply her with some wonderful *Zolia* cowries. The Muricidae were her fourth favorites. Not one to limit herself, her favorite murex was *Chicoreus palmarosae*, and she had a number of them in all sizes and colors. She had interesting and wonderful specimens in minor genera like *Astraea* (including a world record sized *A. longispina*. She also had some very rare *Morum* species. She thoroughly enjoyed the COA bourses and the auctions. She kept extensive data on all her shells and had many specially built cabinets to house her collections, some made by Les Easland and Horatio Buck.

Barbara also did self-collecting. In addition to her early collecting of beach shells on Sanibel, she collected in Massachusetts, where she collected common species on the North Shore of Boston, near the Gloucester and Plum Island areas. She and John spent every New Year's Day walking the beaches of Plum Island, both for shells and birds. Although they often invited us, we were not brave enough to experience winter on the beach in New England. She participated in group shelling events in Florida, and while attending her first COA convention at the Don CeSar, she made a remarkable discovery on that field trip to Tampa Bay: a golden olive! It was the very first shell she picked up that day. Upon seeing it, all alone in Barb's bucket, I kidded her by telling her that she should show that to Tucker Abbott, who was collecting just twenty yards away. I told her to tell him that Nieburger says that it is the wrong color and that Nieburger would throw it away for her. Tucker, of course, set her straight and congratulated her for her very special discovery. For the next thirty years Barb kept this golden shell in a ring box to protect it from the sunlight.

As Barbara visited Iowa during several summers, and as she learned about the old shell button industry there, she made trips to Muscatine, Iowa, and other button factory sites to gather artifacts and old literature about this long-gone industry. A nephew of John's married a woman whose family lived near the button factory and who may have worked there. She supplied Barb with many items of interest.

Barbara was moved from her home in Punta Gorda, Florida, to a medium care health facility in Port Charlotte in 2011. Sherlee Palladino, Gayle, Braden, and I were able to get Barbara to her last COA convention in Sarasota in 2012, where she bought her last new shell from the Deynzers at the Bourse. Sherlee did a remarkable job as Barbara was really in need of full time assistance.

In 2014, Barbara was moved to a facility in California, where her younger stepdaughter, and that stepdaughter's grown children and grandchildren were living. Barbara continued to talk periodically via phone with Gayle, and also with her long-time Ohio friend Sherlee Palladino.

Many shell friends in the Boston, MA, area, the Cleveland, OH, area, and the Punta Gorda, FL, area, as well as many COA members mourn the loss of a dear friend. We shall forever cherish the memories of Barbara and all the good times that we were fortunate enough to have had with her. She certainly will not be forgotten.

by Edward, Gayle, and Braden Nieburger

56 years of shell collecting

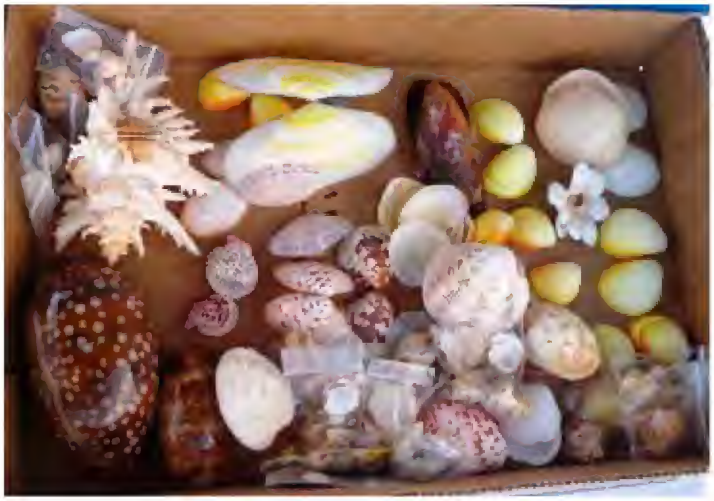
Warren Graff

Like many, my shell collection started in a cigar box. In 1957, when I was twelve, we lived on Ramey Air Force Base in Puerto Rico, where my father was a pilot. We spent three wonderful years on the base near Aguadilla in the northwest corner of the island. I started with beachcombing, which was very productive after storms, but I soon graduated to snorkeling and eventually tank diving. By 1959 we learned that the best collecting spots were on the living reefs off Mayaguez, and Cabo Rojo and Parguera in the south. In those days there were no highways, so it took five to six hours to reach Cabo Rojo and Parguera. In my last year there I met Germaine Warmke at the University of Puerto Rico in Mayaguez, who was putting the finishing touches on her book *Caribbean Seashells*. I still have the *Cassis tuberosa* shown below in a photograph from that time.

Warren at Ramey Air Force Base, Puerto Rico, 1959.

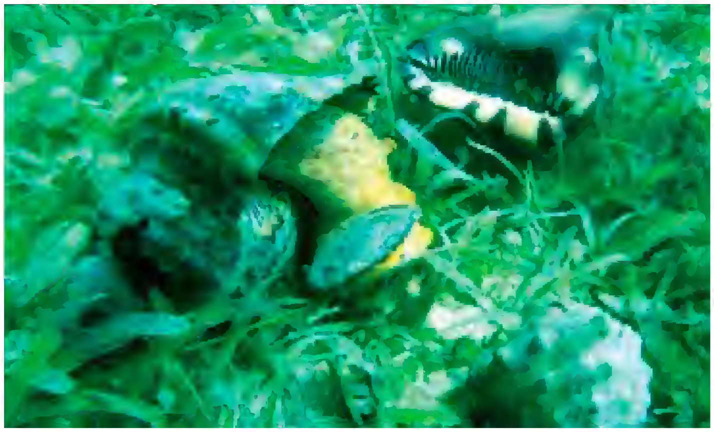
Germaine Warmke author of *Caribbean Seashells.*

We left in 1960 and moved to Springfield, Massachusetts, where I finished high school and college. I did no collecting during those years and missed it terribly. In 1971 I spent a year in New York City and did my collecting at Veronica Parker Johns shell shop and Jerry Eisenberg's Collectors Cabinet. I also met Bill Old at the New York Museum of Natural History and joined the New York Shell Club. This was the first time acquiring world-wide shells; prior to that my collecting was primarily Caribbean. In 1973 I made a trip back to Puerto Rico where I met Chet and Carmen Painter in Parguera. Chet was retired Navy and ran a dive shop and boat-rental business. I rented a boat and went to the reefs off shore all day and returned with an awful sunburn, but it was worth it. I had never seen such beautiful reefs, teeming with fish and gardens of staghorn coral everywhere. Chet showed me his own shell collection and a friendship started that lasted until his passing last year. Carmen is still there, however, and runs a shell shop



Results of a few days diving, Parguera, Puerto Rico.

(Left to right): Stacy Robichaud, Dick Bailey, Warren, Carmen Painter, & Scott Robichaud at the shell shop and dive trip shop in Paguera.



Helmets and a triton, in situ, off Paguera, Puerto Rico.

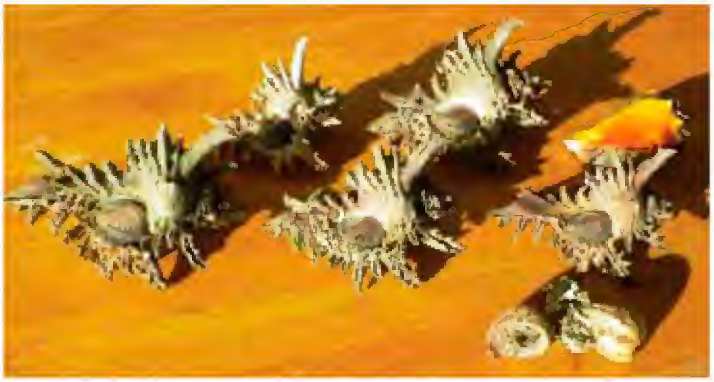
Hotel Villa Parguera, my home away from home.

and dive trip business of her own. Carmen has taken us out diving and collecting many times over the years and I have numerous fine specimens to show for it. The Parguera reefs off shore are great for finding beautiful Caribbean *Cassis*, *Strombus*, *Cymatium*, *Murex*, star shells, and bivalves. Even though these species are plentiful, we leave most and take only a few.

Although I still relish self-collecting, I also attend shell shows with fellow enthusiasts Scott Robichaud and Don Robak several times a year, the Philadelphia, Space Coast (Melbourne, Florida), and COA convention shows in particular. The dealers always offer great shells and we look forward to these events every year with much anticipation. It also provides a chance to reconnect with other collectors we have met over the years, as well as our favorite dealers. In addition to self-collecting and attending shell shows, during the past ten years I started searching the online shell websites and auctions. These are addictive and great fun, especially if you are fortunate enough to win a prize shell. The auctions are quite competitive and I have lost more often than won. Collectors from the world over are bidding and many have deep pockets and are difficult to outbid. Even so, it is a relatively small group of bidders and I have become very familiar with their 'handles.' Since I don't care that most of my shells are not self-collected, I have probably saved a lot by using the shows and auctions instead of flying to distant locales to find my own specimens.

At the suggestion of a fellow collector and friend, I recently decided to house my larger specimens in glass cabinets. Up to then, my shells were all in drawers or boxes and could not be readily seen. The cases are set up by family – Cassidae, Ranellidae, Strombidae, Conidae, Muricidae, etc. I now have a mini-museum in my basement, and invited fellow club members (Boston Malacological Club) over to view them in 2011. This presentation is what I always hoped to see in natural history museums, but unfortunately don't. The only place one sees comprehensive displays, usually of a particular family, is at shell shows.

One of many gorgeous mangrove pools in Parguera Bay.



Chicoreus brevifrons fresh from the mangroves.

In general, I don't collect very small specimens and I am not interested in collecting every species. Like most other collectors, though, I am constantly trying to improve the individual specimens I already have.

I have learned that this hobby is not just about collecting shells. It can be just as fulfilling to be doing anything shell-related. Our club recently hosted two outreach events, one with a Cub Scout troop and another with a middle school; it was as enjoyable for us as it was for the youngsters. Like other shell clubs, at our monthly meetings we include shell-of-the-month and conchological report segments that are always interesting. And recently, our club received a donation of a large collection from a former member, now deceased; the collection is to benefit our club. I was one of several members who spent hours cleaning up specimens and resetting operculums and labels in preparation for our annual auction in May. It was very rewarding work and I felt thankful for the opportunity.

Yes, as I look back I feel so fortunate to have experienced the love for shells and wish my enjoyment can be passed on to younger folks. If only we can get them to look away from those hand-held devices for a few moments and see the natural world around them – they don't know what they are missing!

Kristina Joyce views Warren's collection.

Display of Spondylidae and Pectinidae.

Display of Muricidae.

Display of Cassidae.

Warren at home in his shell room.

35th Astronaut Trail Shell Club Festival Show

10-11 January 2015

The 35th Astronaut Trail Shell Club Festival Show was held January 10-11, 2015, with scientific judges, John Slapcinsky of the Florida Museum in Gainesville and Charlotte Thorpe of Jacksonville, Florida. Artistic judges were Betty Lipe of St. Pete Beach and Phyllis Gray of Orlando, Florida.

The Conchologists of American (COA) Award was won by Gene Everson of Louisville, Kentucky, for “Turrid Appreciation.” The duPont Trophy was won by Dr. Ron Bopp of Bradenton, Florida, for “ Fossil Mollusks of the Pinecrest Member (Beds) of the Tamiami Formation, SMR Aggregate Quarries and APAC Sarasota Mines.” The Master’s Award was won by Gene Everson for “Limpet Like Mollusks.”

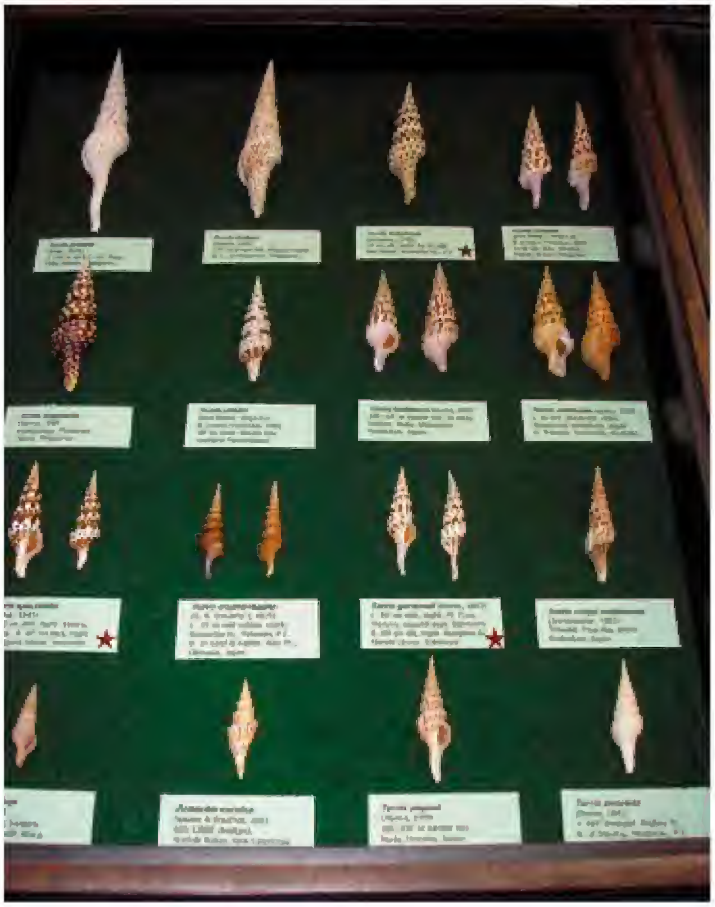
The Club’s R. Tucker Abbott Award for best self-collected was won by Jim Cordy of Merritt Island, Florida, for “Guaymas déjà vu.” The Fossil Award was won by Dr. Harry Lee for “Neptune’s buried (for 3,000,000 years) treasures: selected marine micro-gastropods from the Lower Pinecrest Beds, Upper Tamiami Formation, N. Sarasota County, Florida” for an impressive array of more than 1,500 fossils. The Shell of the Show was won by Gene Everson for *Bartschia* (*Agassitula*) *pertae* Haraseych, 2014; Shell of the Show Florida self-collected was won by Dr. Ron Bopp for fossil *Turbinella streami* Petuch, 1991, and Worldwide Best Self Collected Shell of the Show was won by Gene Everson for *Drillia idalina* (Duclos, 1840) from Sao Tome.

In Artistic, The Astronaut Trail Shell Club Premium Arts and Craft Trophy (entries only for winners of major awards in this or other shows) was Wendy Marshall of Yarmouth Port, Massachusetts, for “My Little Valentine” a small gem made of self-collected shells. The Astronaut Trail Shell Club Arts and Crafts Trophy was won by Linda Powers of Englewood, Florida, for “Kitten Paw Jack-O-Lantern,” and The Astronaut Trail Shell Club Collectible or Antique Trophy was for “Carved Mother of Pearl from the Holy Land” by Sue Hobbs.

Early morning risers on the opening day of the show were treated to a rocket launch headed for the International Space Station.

Alan Gettleman
Merritt Island, FL

Gene Everson accepts the COA Award from judges Charlotte Thorpe and John Slapcinsky.



One of 20 cases of “Turrid Appreciation” displayed by Gene Everson.

Sarasota Shell Club Annual Shell Show

13-15 February 2015

The annual Sarasota Shell Club Shell Show was held on 13-15 February 2015 at the Bradenton Area Convention Center in Palmetto, Florida. This is a perfect venue for our show and display - enjoyed by over 850 paid attendess. The 2015 winner of the Conchologists of America (COA) Award was Harry Berryman for his display titled "Etymology of Cone Shells." Harry had 17 cases of cones on a display of over 35 feet.

Some of the other winners this year were: DuPont Trophy to Vicky Wall for "Marvelling at Mollusks," Mote Gold Trophy to Martin Tremor and Conrad Forler for "Meet Mr. and Mrs. Cockle & Family," Best Self-Collected to Duane Kauffmann for "Siesta Key Sampler, " Hertweck Fossil Award to Ron Bopp for "Fossil Mollusks of the Pinecrest Member of the Tamiami Formation - SMR Aggregate Quarry and APAC Sarasota Mines," Sarasota Shell Club Member's Award to Lynn Gaulin for "Dredged off Siesta Key," The Bob Morrison Young Scientist Award to David Irvin for "Florida Seashells Now and Then," and Fossil Shell of the Show to Ron Bopp for *Pleioptygma carolinensis*.

Harry Berryman with a blue ribbon and the COA Award.

Vicky Wall with a blue ribbon and the Du Pont Trophy.

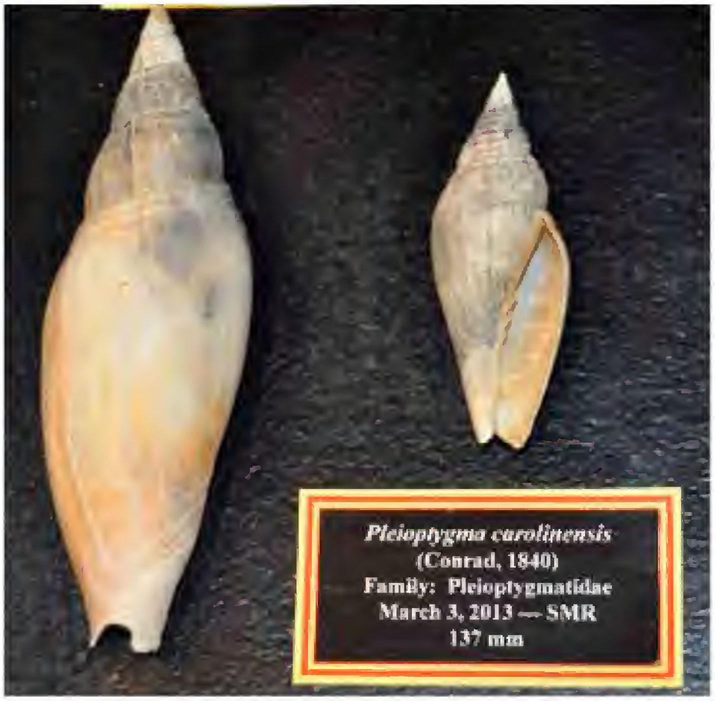
Martin Tremor with a couple of ribbons and the Mote Gold Award.

Duane Kauffmann with a couple of ribbons and the Best Self-Collected shell.

Ron Bopp with a couple of ribbons, and the Hertweck Fossil Award.

Lynn Gaulin with a blue ribbon and the Sarasota Shell Club Member's Award.

David Irvin with a blue ribbon and the The Bob Morrison Young Scientist Award.



Ron Bopp's Fossil of the Show: *Pleioptygma carolinensis.*

(Below): The Bradenton Area Convention Center in Palmetto, Florida - home to this year's shell show.

2015 COA Convention

Bonaventure Resort & Spa in Weston FL Convention

July 14 to 18, 2015

Trips, Tours & Dinner Cruise July 12-13

The Broward Shell Club cordially invites you to the exciting 2015 worldwide gathering of amateur and professional shell enthusiasts!

The Broward Shell Club offers you a full range of exciting activities at the 2015 COA, including: interesting and varied educational programs, a fabulous oral auction, and our silent auctions that will be second to none. The Bourse will be held in Bonaventure's 10,400 sq. ft. Global Ballroom! An Everglades Welcome Party, a Gala in the Glades banquet, exciting raffle items featuring a huge Florida horse conch/*Busycon* duo, door prizes, and exciting field trips will complete the week. Please look for our special sale of Florida shells as well as beautiful art & craft work by our Broward Shell Club artists at the Broward Shell Club morning sales tables.

Bonaventure Resort & Spa, 250 Racquet Club Road, Weston, FL 33326
Phone: 954-389-3300 or 1-800-327-8090

The convention hotel is the beautiful Bonaventure Resort and Spa in Weston, Florida, located on the edge of the Florida Everglades. Four rooming options are offered: standard room rates are $129, executive double is $159, a one-bedroom suite is $179, and a two-bedroom suite is $209 (plus 11% tax per accommodation). All rooms, except king bedrooms, have a refrigerator. Complimentary self-parking, internet access, as well as free use of the 24-hour fitness center are included. Rates are valid three days before and after the convention.

http://www.bonaventureresortandspa.com/ Reservation Code: COA / Conchologists
On-Line Reservations Link https://resweb.passkey.com/Resweb.do?mode=welcome_gi_new&groupID=28211428
FOR INTERNATIONAL RESERVATIONS, PLEASE CALL: 1-954-389-3300

DEADLINE: THURSDAY, JUNE 11, 2015 - Regular resort rates apply after this date.

Airport and Ground Transportation to the resort is detailed on our websites:

www.conchologistsofamerica.org and www.2015coaconvention.com.

PLEASE CONTACT US IF YOU HAVE QUESTIONS ABOUT THE CONVENTION OR IF YOU HAVE TROUBLE BOOKING YOUR ROOM - 2015COA@gmail.com

We look forward to seeing you this summer at the 2015 COA Convention!!

Pre-Conference Field Trips - July 12 & 13, 2015
Please check our websites for full trip details about what's included, what to wear, etc.

Sunday, July 12 - Everglades Eco Tour (pending permit), on-site fossil dig, Flamingo Botanical Gardens & Everglades Wildlife Sanctuary tour, airboats and alligators, *Jungle Queen* dinner cruise.

Monday, July 13 - Everglades Eco Tour (Pending Permit), Day Dive of Palm Beach County, Snorkeling and Collecting at Peanut Island, On-Site Fossil Dig, NOVA Oceanographic Institute Tour, Sea Turtle Release

Everglades Welcome Party
The Broward Shell Club invites you to the Florida Everglades, one of the largest wetlands in the world and home to both the American alligator and American crocodile. South Florida is also the only place in North America where you will find *Liguus fasciatus*. Pack your bags with your "Everglades/safari wear": lightweight khakis, hiking shoes, and a sun hat. Relax and enjoy our Tuesday night *Everglades Adventure,* and let's have a memorable Glades Experience! Attendance at the welcome party is included with your registration. Special prizes will be given for the most memorable hat. An exciting selection of appetizers will be served, including Everglades-themed gator bites, fish tartlets, and conch ceviche. Cash bar.

Programs
We have an outstanding lineup of programs and speakers planned for the COA. We plan on presenting a wide variety of topics with something for everyone. We are planning programs on Florida natural history, archeology, & fossils, as well as tips to fabulous shelling locations and molluscan family specific presentations. Hopefully these presentations will be generally entertaining as well as educational. Look for a complete listing of programs on our website.

Auctions
Oral - A fabulous oral auction is planned for Wednesday night and will feature an *Entemnotrochus adasonianus* from Honduras and a *Liguus* collection containing 49 color forms. Each of these items is valued at over $1,000. There will be a beautiful selection of specimen shells, including *Nodipecten magnificus, Voluta riosi*, an 11 1/2" *Fusinus meyeri*, and a *Murexsul zylmanae*, plus books and other items. Please see our website to view auction items, www.2015COAConvention.com. *We are currently accepting donations for the oral auction and silent auctions for the convention. Please send your 2015 COA oral and silent auction donations to John Chesler, 7401 SW 7th Street, Plantation, FL 33317, (954) 791-5909, email* murex2@aol.com. *Cash donations may be sent to Linda Sunderland, payable to 2015 COA Convention, POBox 19505, Plantation, FL 33318. Thanks in advance to all COA members and dealers for your donations for this summer's COA.*

Silent - There will be six silent auction sessions. The quality and variety of material received so far promises something for everyone.

Gala in the Glades banquet
The Thursday night *Gala in the Glades* banquet is included in your registration fee and we anticipate a full house. Four entrée choices include chicken breast, "flat iron" filet of beef, mahi (fish), and vegetarian. There will be a cash bar. An entertaining program speaker is planned for after-dinner and raffle prizes will be awarded. Dress is nice casual. Please join us for this festive evening of food and fellowship. Questions: contact Alice Pace, (305) 386-3442, alicepace90@att.net

On Your Own
There are many activities you can explore on your own in South Florida, including various concert arenas, nearby shopping and dining malls, as well as two Seminole Indian casinos. The Fort Lauderdale beach is a 30-minute drive away. One particularly exciting destination is the Sawgrass Mills Mall! Located five miles from the Bonaventure Resort, Sawgrass Mills is the largest outlet and value-retail shopping destination in the United States, with more than 350 stores. Please check our website for links to many of the other interesting destinations in the South Florida area.

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American CONCHOLOGIST

Quarterly Journal of the Conchologists of America, Inc.

CONCHOLOGISTS OF AMERICA, INC.

In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors; to the beauty of shells, to their scientific aspects, and to the collecting and preservation of mollusks. This was the start of COA. Our membership includes novices, advanced collectors, scientists, and shell dealers from around the world. In 1995, COA adopted a conservation resolution: Whereas there are an estimated 100,000 species of living mollusks, many of great economic, ecological, and cultural importance to humans and whereas habitat destruction and commercial fisheries have had serious effects on mollusk populations worldwide, and whereas modern conchology continues the tradition of amateur naturalists exploring and documenting the natural world, be it resolved that the Conchologists of America endorses responsible scientific collecting as a means of monitoring the status of mollusk species and populations and promoting informed decision making in regulatory processes intended to safeguard mollusks and their habitats.

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Front Cover: *Proserpina pisum* (C.B. Adams, 1849), 5.5mm, Jamaica. This tiny landsnail is closely related to nerites and is in the family Helicinidae. Recently some authorities have placed it in its own family, Proserpinidae. In any case, *P. pisum* is a unique snail with its spiny mantle, long body (the head is hidden under the shell), and bright green color. Without the living animal however, the shell is a rather drab translucent yellow-stained white. While not especially rare, few people have seen the living animal. Photo courtesy of an anonymous reader.

Back Cover: *Cymbiola vespertilio* (Linnaeus, 1758), 68mm, the very common but variable bat volute at 40 feet, night, on a black sand slope, Sulawesi, Indonesia, 2006. Photo courtesy of Charles Rawlings.

From the COA President:

Early this year, Doris Underwood let me know that she was retiring from her duties as COA's Membership Director. The COA Membership Director receives membership applications and renewals and actively manages COA membership, ensuring (among other duties) that members receive their copies of *American Conchologist* by keeping the mailing list up-to-date. A resident of Melbourne, Florida, Doris joined the Astronaut Trail Shell Club in 1975, just after moving to Florida, and has been an ATSC officer ever since. Doris has also had a long service history with COA, having joined the organization in 1979, served on various committees, and as Trustee, Vice President, and President. Through her participation in convention auctions and innumerable personal donations, Doris has been a strong supporter of the COA, and in particular of the Academic Grants program. Doris has been replaced in her position by COA board member-at-large, Debbie Freeman, of Englewood, Florida. On behalf of the COA Board of Directors, I want to wholeheartedly thank Doris for her commitment, her hard work, and for almost two decades of service as COA Membership Director.

José H. Leal, Ph.D., COA President

From the editor:

First, my thanks to Doris for maintaining the COA membership list, printing labels, working changes of address, publishing the membership list, and always, always, smiling and laughing and ready to help me work an address problem. Thank you. And, welcome aboard to Debbie. We have already worked address issues together and she will do great as Membership Director.

This issue completes the McGinty article on Cuban landsnails and I hope our readers have enjoyed it. Thanks to Drs. Emilio F. García and Emily H. Vokes for bringing this to COA and to the late (and irascible) Dick Petit for the original discovery and transcription of McGinty's manuscript. After wading through the Cuban landsnails you will hopefully find a bit of variety in the remainder of the magazine. Thank you to all of our contributors. It is great to fill 40 pages and still have material for the next issue. Sorry for those whose articles are delayed - I will get to you.

Shell Collecting in Cuba
November 1930 - part 3

Paul L. McGinty

edited by Emilio F. García and Emily H. Vokes

This is part three of the three part historical account of a collecting trip to Cuba in 1930. This account was discovered unpublished in a museum archive by Richard (Dick) Petit, who was quite interested in the many adventures by Paul McGinty. Dick Petit obtained a photo-copy of this manuscript and re-typed it for possible publication. Dick's untimely death would have halted any possible publication except for the intervention of Emilio F. García and Emily H. Vokes. They edited the MS, which had been transferred to electronic form by Dick Petit, and provided necessary annotation. The result is an exciting and timely historical account of shell collecting in Cuba, 85 years ago. The editors noted in part one:

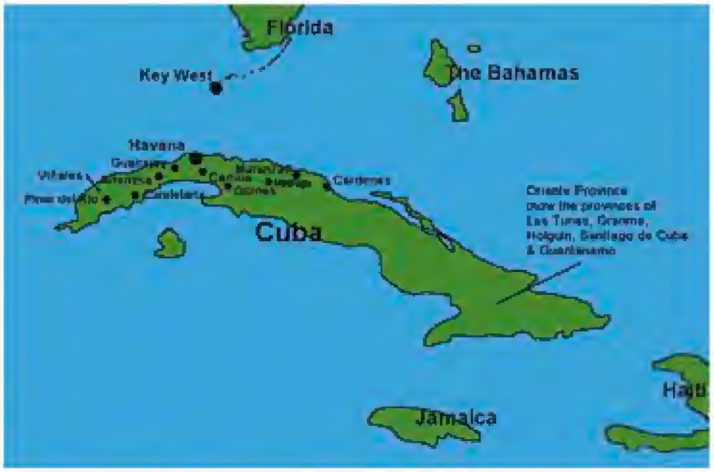
"As this is a historical account not a scientific paper, no attempt has been made to modernize the taxonomy or the rendition of "scientific" names, which have been left as the author wrote them. There has been a minimum of editorial corrections, principally typographical errors and misspellings, the latter primarily correcting the orthography of Spanish names. Minor additions by the editors are given in brackets. Those of the author are in parentheses. Footnotes are by the editors and provide a few explanatory notes and comments relevant to the paper."

As we drove Maxwell down to the steamer the next morning we followed Menocal Boulevard [*sic*, Malecón] where the surf was breaking with great force against the sea-wall. The pavement was drenched with splashing salt-water making driving rather dangerous. From time to time we could catch a view of Morro Castle where the heavy seas dashed so hard against the great rocky bluff that spray seemed to rise almost to the lighthouse high above. There was considerable joking done at Maxwell's expense as to what his chances were for being seasick for never had we seen it so rough.

We found at the boat dock that one was taxed ten cents for each package which was taken aboard the steamer. Poor Maxwell was rather heavily taxed for he had numerous small packages containing specimens of shells, etc. (Needless to say, we determined then and there to put all of our paraphernalia into as few large packing boxes as was humanly possible.) After completing the always unpleasant duty of bidding farewell and bon voyage we left our good companion collector upon the deck of the steamer. We were all very sorry that he was not going to remain for the remainder of our stay.

The rest of the morning was spent by the remaining members of our party as each saw fit. Shopping was in order for most of us. Dad wanted to get some large cardboard cartons in which to pack our specimens for our own return trip to Key West. The writer had learned from Maxwell of a certain Señorita in the Post Office who had a few copies of the new Capitolio Issue of postage stamps. I had tried to buy some several times before but had always been informed that all had been disposed of. Hence, I approached the said Señorita at the stamp window and inquired as to whether she had any of the Capitolio issue. She answered in Spanish something to the effect that all had been sold already. At any rate there were other current stamps which I wished to take back as souvenirs to be added to my collection and asked if she could supply these. As I was about to make payment she suddenly seemed to remember that she had "un Capitolio." Only "uno." Diving into her pocketbook she pulled forth a pair of each of the stamps in the series. They were very carefully wrapped in wax-paper as if she had intended to save them for some collector friend. Carefully she tore off one stamp of each denomination and gave it to me. When I

Morro Castle, or more properly, Castillo De Los Tres Reyes Del Morro, sits at the narrow entrance to the Havana harbor.


Florida
Key West
The Bahamas
Havana
Pinar del Rio
Candelaria
Matanzas
Cardenas
Cuba
Oriente Province now the provinces of Las Tunas, Granma, Holguin, Santiago de Cuba & Guantanamo
Haiti
Jamaica

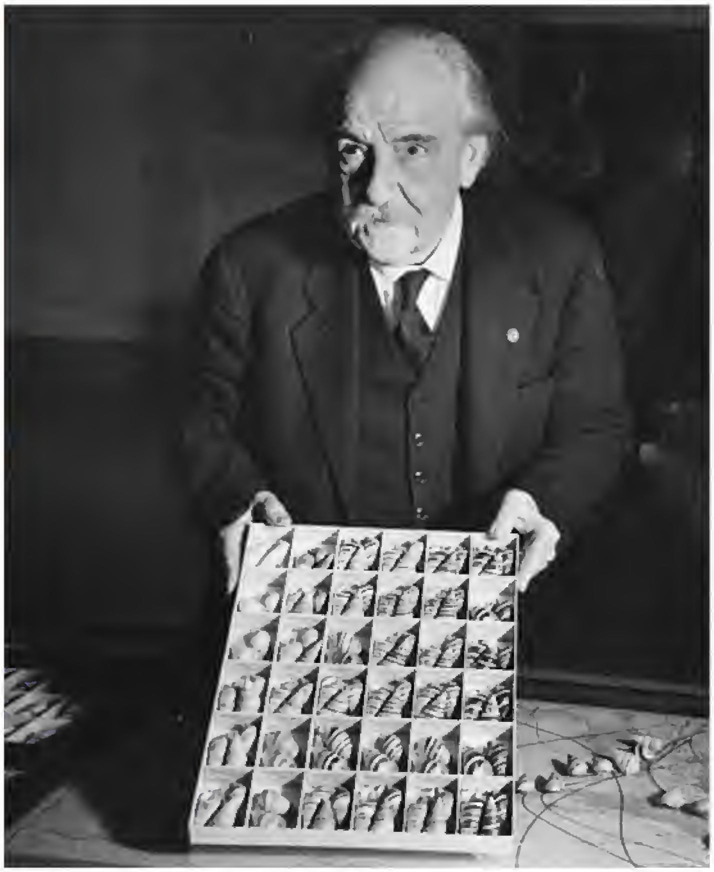
attempted to show my appreciation of the favor by offering her more than the face value of the stamps she refused to accept but the marked value. I thanked her as best I could but not forgetting that it was old Maxwell with his winning way with the ladies who had directed me to her.

We purchased bread, pastry, and a generous slice of Eiderdam cheese at a shop near our hotel and ate our lunch in our rooms. It certainly tasted good, especially the cheese.

In the afternoon we all called on Dr. Bermúdez at his home and found Dr. Torre there. Bermúdez' brother, a physician, had given him injections for sciatica and had greatly relieved his discomfort. Bermúdez told us, Dr. Torre acting as interpreter, that he had never had any sciatica before and had tramped all over the island from one end to the other. That Sitio Perdido was a jinx for him. He had been there on three different occasions and each time had been taken sick! We were all more than glad to learn that it was nothing very serious and that after a few days of rest he would probably be up and around again.

The evening was spent with Dr. Torre at his home where shell talk was of course in order. Returning to the hotel later we found a telegram from our Matanzas friend, Sr. Portuondo, stating that he was ready to go with us on a trip to collect shells the next morning at 9 AM. This was most welcome news for a most interesting trip to the quaint city of Cárdenas lay in store for us.

We were off by 7 AM for Matanzas and upon arrival found Portuondo making last minute preparations to leave with us. He produced a giant sack full of *Cerions*, thousands of them and mostly of one variety, which he had collected for us since we had last seen him. We thanked him heartily but wondered what we would ever do with so many duplicate shells! About an hour after our arrival Portuondo was ready and we started for Cárdenas, which is about 35 miles beyond Matanzas. The drive took us thru a section devoted almost entirely to the planting of sugar cane. Great plantations bordered the road on either side and as far as the eye could reach could be seen the waving tops of the green cane. Occasionally we passed thru some sleepy little village, generally with a mill nearby where the cane was converted into sugar. Most of these mills were at some distance from the main highway but were clearly visible with their tall smokestacks silhouetted against the sky. An hour or so was lost in reaching Cárdenas because of taking a wrong road but outside of such a minor mishap nothing occurred to mar our joy. Frequently we paused to search for *Liguus* but found none until we were almost in sight of the city of Cárdenas. About a mile south of the town some very large trees bordered the road and someone sighted a *Liguus* upon one of the trees. A search disclosed more specimens of a very handsome *crenatus* shell with narrow green bands. (Station #51) Soon the available specimens had all been taken from the trees alongside the road and our party one by one made its way over the high stone fence to a field beyond, in which many more large trees were growing and quantities of well fed cattle were contentedly grazing. In this pasture collecting proved better and shells were even found crawling in the heavy grass as well as upon the trunks and limbs of the trees. We even found a few specimens living upon a very


Dr. Carlos de la Torre y Huerta (1858 - 1950) with a tray of Cuban *Liguus*. He was President of the University of Havana and collaborated with Smithsonian scientist Paul Bartsch, donating many specimens of Cuban mollusks to the Smithsonian's U.S. National Museum. Courtesy of the Smithsonian Institution Archives: www.siarchives.si.edu.

villainous cactus-plant which was growing along the fence, a rather good means of discouraging trespassers. It might be said that we noticed these heavy thickets of cactus with a bit of regret for we never knew but what a bull would decide to make a charge upon us. Worse still for perhaps the owner of the farm might appear upon the scene with other than joy in his heart, maybe a rifle under his arm. Luck was with us, however, for the collecting progressed splendidly with no interference. It is of interest to note that we found numbers of the shells which had been stepped upon by the grazing cattle and pushed down into the soil but remained quite undamaged by the experience! Most Cuban *Liguus* shells are much stronger than the Florida varieties and these from Cárdenas were unusually strong.

As we entered the city, soldiers stopped us and carefully examined our credentials before allowing us to proceed. Cárdenas proved to be a most interesting and attractive Cuban city. Really quite different from any of the other Cuban towns that we had visited before. It struck us that the occupants of the houses took more interest in the external appearances of their dwellings. Usually in Cuba even the better residences are built very close to the sidewalk and no attempt is made to beautify the entrance or external appearance of a dwelling. Upon entering, however, one was quite likely to find excellent furnishings and a beautiful patio garden for such is the oriental practice in home building. Here in Cárdenas were many exceptions to the rule for many of the better homes had fine lawns shaded by great Mango trees, attractive shrubbery and colorful flower gardens. The effect was very pleasing indeed. There was only one thing that we did not like about Cárdenas and that was the roads. Never had any of us seen such poorly maintained streets in a city. Even on the main street the road was so full of holes (not little "chuck-bumps" but the kind that make your car "hit bottom" if you try to make any speed) that most everyone drove upon the street-car track. We tried this ourselves and found it much better than staying upon the roads altho one had to exercise great care for in places the rails were elevated about six inches above the road and quite a bump resulted if one "left the track."

First of all in Cárdenas we decided to have more air put into our tires in an attempt to minimize the bad effects the terrible roads would be sure to have upon them. We paused at a garage and had just started putting in the air when a Cuban youth of about 16 dashed out, grabbed the air-hose from us and before we knew what had happened he had put so much air into the tire that it exploded with a loud report! Portuondo became very excited and insisted that we should have the garage-man put in jail for allowing such a thing to happen. A large crowd formed about us and seemed to enjoy the discussion between Portuondo and the garage-man. Portuondo was our spokesman and never was there a more loyal one! He became so angry with the man that Spanish was pouring forth faster than one would have thought the human tongue could operate. His explanations to us in English about what he was doing were almost as fast. I do not think that I have ever heard anyone who could speak quite as fast as Portuondo could, anyway. Finally a settlement was made with the garage-man and he sold us a new inner-tube at a reduced rate and we were on our way again.

At a small eating place we had a lunch consisting of beer and some kind of sandwiches very much resembling our "hamburgers." Portuondo had taken the whole affair about the tire very much to heart and as the waiter brought us our tall glasses of foaming beer Portuondo took his finger and slopped off the foam upon the floor saying at the time that he didn't care what he did in this damn town where they treated his American friends so badly by blowing up their tires. He had a friend in Matanzas who owned a garage and had seen him blow up hundreds of tires and had never seen him make an explosion. When the sandwiches came and everyone was busy eating, Portuondo casually remarked that this "cat-meat" was better than "dog-meat." "Yes. I sink zis is cat-meat, I sink so." That reminded him of a long story about how he had not touched meat of any form for eight months because one evening he had discovered a "malignant cancer" in a piece of beef while slicing it for a sandwich. This was the first meat he had touched since then, he said. Portuondo was full of such queer tales and amused us constantly with such discourse.

At another time he told us about his first drink of Coca-Cola. It seems that while he was living in Jamaica he and a friend had become very thirsty and could buy nothing at a certain store but Coca-Cola. Portuondo was sure that he wouldn't like the drink but acting upon his friends advice he decided to take the bottle, close his eyes, and drink it down. He did so and after the last swallow had gone down he felt something in his mouth. "What you sink?" he would say in telling the story, "There I am masticate in my mouth two great big, what you call ze cock-roach! Zen I mus' go buy whole bottle of ze Listerine and all day must go along gurgle-gurgle-gurgle. Even zen I could not get rid of zat terrible taste. Oh, poof, I sink so." In telling this last part he would throw his head way back and give a very good imitation of a person gurgling.

At another time while we were driving over a particularly bad section of the road he remarked that his liver was saying to his stomach, "Why ze hell you bump around so much for? And zen ze stomach says, 'What ze hell you tink? I can no help it. It's these damned Cuban roads.' " He had thousands of such stories upon the tip of his tongue and kept us laughing most of the time. The way he told them was most amusing. Always he spoke so fast and continued talking without taking time out for a breath. At the conclusion of telling one of his episodes he would usually become so excited that all he could say would be a high pitched cry sounding something like "poof" and with a great shrug of his shoulders he would heave a sigh and draw in sufficient breath for the next story.

First of all we decided to visit an American (Dr. Robert Wharton) who was running a Presbyterian boys' school here in Cárdenas[9]. Dr. Torre had given us his name and told us that he was interested in shells. He treated us very cordially taking us into his home and showing us the greater portion of his collection. It was not a very large collection but was very nicely mounted and kept. He directed us to the Museum Building where we spent an hour or more viewing the many interesting relics. Among them was a garrote. There was also an interesting collection of shells on display. They had been presented to the City of Cárdenas by an aged collector, Sr. Blanes[10]. The building of this collection had been a life work and had been done entirely thru the medium of exchanges. (Later we visited the aged Sr. Blanes in person.) This is really an unusually fine museum, especially considering that the city is not large.

From the Museum we drove to the home of a Sr. Sosa, a conchologist whose name had been given us by Dr. Torre. Sr. Sosa proved to be a very pleasant chap who took pleasure in showing us his collection. Dad was presented with a number of forms which we had been unable to collect for ourselves so far. Also we met his wife and little girl who had some interest in shells too. When we bid them goodbye he presented us with a paper sack full of a kind of Cuban fruit. They looked somewhat like pine-cones [? *Annona reticulata*, the custard-apple] and proved a bit too sweetish for our tastes.

It was getting late by this time so we had to hurry if we were to call upon old Sr. Blanes. We felt that perhaps the old man would appreciate a visit from some foreign conchologists for we had heard that he led a rather lonely life. After considerable difficulty in locating his home we succeeded in finding it. The old man was propped up in bed and seemed so glad to see us all. He spoke very little English and since our Spanish was also very limited we could not converse together very freely. He showed us proudly some shells in closed mason-jars which friends had given him since his confinement. Poor old man. We felt very sorry for him but were glad that we had taken the time and trouble to look him up for it seemed to cheer him to have callers.

We made our way back to Matanzas to have dinner at the hotel at about 8 PM. From the hotel we repaired to the home of Portuondo where the exchanging of shells was in effect until about 10 in the evening. We were all a bit tired after a strenuous day when sometime after 1 AM we returned to our Maison Royale in Havana.

The following day was less strenuous. Bud and I spent the morning in our rooms cleaning specimens. Tom and Dad spent the morning at the Museo Poey getting shells from Dr. Bermúdez who was well enough by this time to be around. Making a curating laboratory of one's hotel room certainly has its drawbacks as Bud and I were to find that morning. It seems that the gathering of the specimens had been going on with such fervor that we had not been able to clean the animals from the shells as fast as we took them and many specimens having been dead for quite some time had taken it upon themselves to become rather odoriferous. While we were hard at work upon a batch of snails of this riper variety who should knock upon our door but the Maître d'hôtel and request permission to show our rooms to a couple of American ladies who were considering taking them over upon our departure. With hasty cries of "Un momento, un momento," Bud and I quickly pushed all of the odorous shells under the beds and made a frantic effort to tidy the room. Things looked all right when the ladies came in a moment later but alas, the telltale odors we could not remove. With their heads held very high the two elderly ladies marched thru our rooms and directly out again, not a word was spoken but we doubted if they chose to take our quarters after all.

Finally the hectic morning was over and the vilest of the specimens had been taken care of. At about this time the rest of our party came leisurely back to the hotel with Dr. Bermúdez for noon dinner. The afternoon and most of the evening we spent with Dr. Torre at his home, visiting and of course discussing shells as usual. Dr. Torre told us that Bermúdez wished to take us upon a trip in the morning. It was planned that we should include collecting at Madruga in the day's work.

We picked Bermúdez up at his home at about 7:30 in the morning and were soon rolling eastward over the Carretera Central towards Matanzas once more. This road was becoming quite familiar to us by now for we had been over it, at least part way, on four previous excursions. We did not stop to collect much upon the way this time but kept right on driving past Loma Camoa, Jamaica, and at Ganuza we took the Central Highway towards Matanzas. After driving for some time we could discern the hills near Madruga. Just past the little village the road makes a sweeping curve around some of the largest hills and here it was that we planned to try our hands at collecting. Dad promised to stay behind near the automobile with Bermúdez and to keep him from being too active for we didn't want him to have another attack of that painful illness. In fact, we had hesitated about taking Bermúdez at all but he had seemed so anxious to come and had agreed to spend most of his time resting in the car that we agreed to make the trip.

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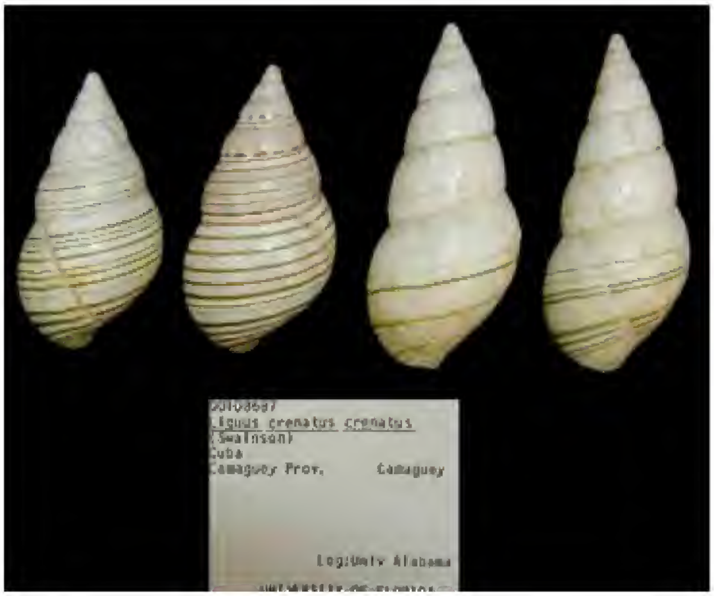
[9] One of the editors (EFG) attended this school in the early 1950s. "Sr. Sosa," mentioned a few lines later, had become by then Dr. Sosa. He displayed a collection of Cuban land snails in the lobby of the school.

[10] F. E. Blanes worked mostly on Cerionidae. He described several new species in that family.

At first the going was rather steep and difficult for Bud, Tom and I for we wished to strike in some distance before starting to collect in earnest. After considerable stiff climbing and struggling with the brush which obstructed our way we reached a larger hill and after climbing upon its sides decided that here should live the snails which we sought. A diligent search disclosed a few specimens and thinking that perhaps more lived higher we climbed up and up the hillside. We were fairly well scattered by this time but within easy hailing distance of each other. (This was a practice which we always followed for fear of an accident to some member of the party.) Suddenly the writer was surprised to hear voices shouting from a clear space far below. Looking down from my rocky perch, I had a bare hand-hold upon the steep hillside, I saw a group of men. They were shouting and waving their arms as tho in great anger. I was much surprised to find anyone back in this region but concluded that we must be trespassing on private property. What they shouted was in Spanish and meant nothing to any of us so not knowing what better to do we waved to them and shouted back a friendly "Hallooo." An instant later there was a terrific explosion which almost dislodged us from our perches and suddenly rocks and pebbles were raining down all about us. We held close against the hillside and fortunately none of us were hurt by the falling debris. It had been a very startling experience, to say the least, and now we realized that the men were trying to warn us that a blasting charge was about to go off. It really is much safer if you understand the native language of the country you're traveling thru. I do not need to add at this point that we very quickly evacuated from that place of peril and sought our shells elsewhere keeping always a weather-eye open for signs of more blasting. Several times we thought we heard a hissing sound nearby and imagined that it might be a long powder fuse burning its way down towards the charge. Such moments were rather unpleasant but since there were more shells which we wished to collect we goaded ourselves onward. It was encouraging to note that there had been no other explosions save that one violent one. Finally at a spot quite well away from the road we found a number of *Urocoptis*, *Chondropoma*, etc., but search as we would we could only find one or two *Liguus* altho the locality seemed ideal for the tree snails. The *Liguus* were quite similar to those we had taken before in Matanzas.

Upon returning to the car we found Dad and Dr. Bermúdez patiently awaiting us. They had found a place alongside the road where the new *Urocoptis portuondoi* Torre had been quite plentiful. Also, they had taken the car upon a little side road leading northward to a little town called Aguacate and had found *Liguus*; both *fasciatus* and *crenatus*. We called this habitat our #54 and the station in which we had collected upon the hill #55.



Liguus fasciatus crenatus **(Swainson, 1821) was named by Swainson as *Achatina crenata*, and although thought by some to be an albino phase of *L. fasciatus*, it occurs in discrete colonies in the Havana Province (divided in 2011 into the provinces of Artemisa and Mayabeque).**

Pausing at a little town on the road back we had our lunch. A man was selling hot tamales and we decided that we must try them. They proved to be quite good. Tasted quite like cornmeal well spiced and cooked until it was quite stiff. They are served in a wrapper made of corn-husks and kept quite warm before serving.

Bermúdez suggested that we leave the main highway at a little station called Cuatro Caminos, just west of Jamaica, and drive southwards to Managua. Frequent stops were made along the country road and numbers of *Liguus* were found upon the roadside trees, also a few specimens of *Cepolis* were taken. The *Liguus* were both *crenatus* and *fasciatus* and we called this our station #55a.

Arriving at Managua after a slow ride over the bumpy country road we turned to the right and headed for Havana. But a short way out of Managua we saw more *Liguus* living upon the trees bordering the road. This was indeed an interesting find for some of the *Liguus* (a *fasciatus*) very closely resembled the *Liguus murreus*. We took a number of these *Liguus* which did not particularly resemble the *murreus* but were most interesting because of their unusually large size. This was our station #56.

There had been so many pauses to collect and the roads had been so bumpy over the last part of our journey that it was past six o'clock when we returned to our hotel in Havana. Dr. Bermúdez was our guest for dinner. Arrangements were made that evening to have him take us on the next morning to the habitat of the *Cerion johnsoni* near the city of Mariel. Since our stay in Cuba was drawing so near to its conclusion and Dad and Bud had more shopping to do it was agreed that only Tom and I would go with him.

Thus, it was with a fairly early start the next morning that we headed the little blue Chevrolet towards the west. Following the Central Highway as far as Guanajay we passed many familiar sights and it was with real regret that we admitted to ourselves that this trip was by necessity to be the last one of our expedition.

At Guanajay we turned off to the right and took the road for Mariel. We found *Liguus fasciatus* living upon the trees and bushes alongside this road quite close to Guanajay and paused a number of times to collect. (#57)

Mariel[11] proved to be an interesting little city located upon an admirable land-locked harbor. Bermúdez directed us to follow the road which skirted the edge of the bay upon the east side, and while this road proved to be extremely bumpy there were so many sights to interest us that we scarcely noticed the bumps. We passed the buildings of the Cuban Naval Academy which is situated upon a truly beautiful spot high upon a hillside overlooking the bay and quite surrounded by trees. We also passed a large cement factory which judging by its size bids fair to be one of the town's principal industries.

Finally after we had driven to within almost a half-mile of the lighthouse which marked the entrance to the harbor Bermúdez pointed to a trail leading off to the right and signified that this led to the habitat of the *Cerion johnsoni*. The car was parked a bit off the road and we started walking down the trail. We had not been walking long before someone discovered a baby *Liguus* living upon one of the scrubby little trees alongside the path. A search soon uncovered a number of adult shells altho they were far from plentiful. Both *fasciatus* and *crenatus* shells were taken and with an extremely variable range of coloring. The predominating shell was one with a yellowish background with blotches of smoky-blue or slatish gray color but there were also white shells with delicate green bands. Some of the shells had the characteristics of both of these forms to some degree. We found one beautiful specimen which when alive and moist was of such a deep and almost solid orange color as to appear like some red flower growing upon a twig. The shells proved to be quite scarce and in order to find any specimens at all it was necessary to make a careful search. It was certainly a most unlikely looking spot to find *Liguus* for none of the trees were much more than large bushes and it could not have been more than a hundred yards to the beach. This is no doubt the reason no one else had ever discovered *Liguus* living here. This shell proved to be quite new and Dr. Torre suggested the name *Liguus pictus mcgintyi* be applied.

Upon the beach nearby and confined to that area just above high-water we found the *Cerion johnsoni* to be living. They were a most peculiar form inasmuch as the shape of their shells varies greatly from that of the average *Cerion*. They were the deadest looking things imaginable with the exteriors of their shells having that worn and porous appearance of dried out old bones. The distribution of this *Cerion* is confined to this very limited area. To test the truth of this statement the writer decided to walk slowly along the beach and notice whether the number of the shells really diminished. As a matter of fact I was astounded to find that before I had gone a hundred yards no more of the shells could be found at all (#58 *Liguus* and *Cerion johnsoni*).

We returned to our car and drove the remaining short distance to the lighthouse (Faro de Mariel) and upon the beach nearby found another *Cerion* (*marielinum*) to be living. This lighthouse is really worth mentioning at this moment because of its peculiar appearance. It is a circular building extremely large in diameter in proportion to its height. In fact it looked very much like a great cheese-box and judging by the size of the light on top one might add, like a cheese-box with a candle burning on top, altho about this I cannot say with any degree of assurity for we never saw it while lighted. After gathering a sufficient quantity of the *Cerion* here we turned the car about and started upon our return.

Almost immediately after starting back a *Liguus* was sighted upon a tree to the right of the road. This was also a new habitat for *Liguus* and after carefully searching for some time we succeeded in taking a few specimens (#60). They were a *fasciatus* but quite unlike the *Liguus* we had taken near the *Cerion johnsoni*, i.e. *mcgintyi*. This was extremely strange to note for I doubt whether these two localities were more than a mile apart.

As we drove slowly along watching for more *Liguus* upon the trees we were fooled several times by *Cerion marielinum* which seemed to live further removed from the water than any of us had seen *Cerion* before. They were also fond of attaching themselves to the trunks of the trees and were really quite good climbers. Every now and then someone would shout "*Liguus*" and when the car would stop, rush out to find only a specimen of this *Cerion* clinging to the trunk of one of the small roadside trees.

Hunger being upon us, we finally decided to cease collecting and return to Mariel for some lunch. Bermúdez ordered sandwiches for us and when they came we were very

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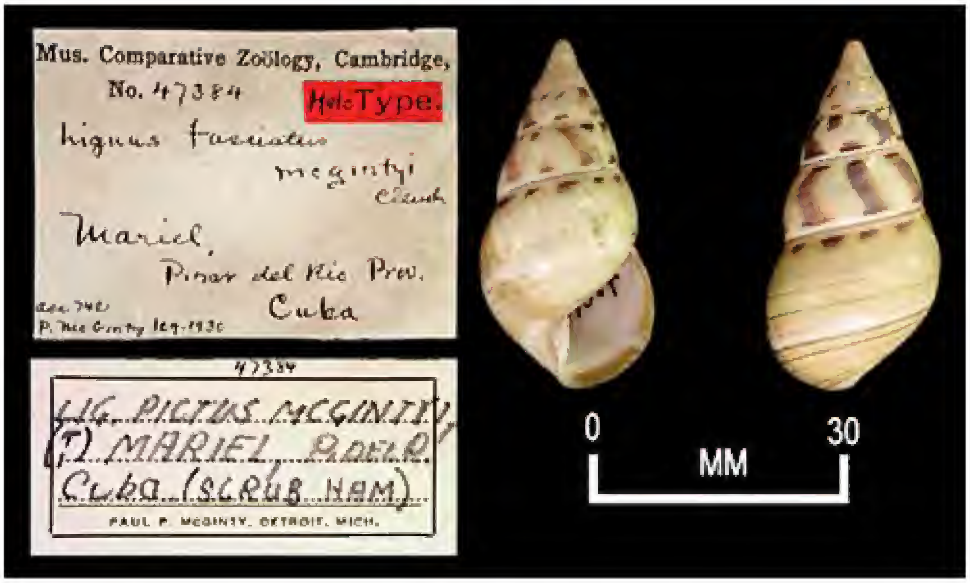
[11] The town of Mariel is perhaps best known for the "Mariel boatlift" when between 15 April and 31 October 1980, perhaps as many as 125,000 Cubans departed Mariel Harbor in some 1,700 boats bound for the U.S. The Carter administration initially welcomed the refugees with open arms until it was learned that Castro had also emptied out the prisons and mental hospitals to rid Cuba of "undesirables." Most of the refugees were ordinary Cuban citizens and the exact number of "undesirables" was never really established, but tensions increased between the two countries and the boatlift was ended.



Dr. Torre's suggestion that the newly discovered *Liguus* be named after McGinty was taken to heart by Clench. This is the holotype of *Liguus fasciatus mcgintyi* Clench, 1934, from Occ. Papers Boston Soc. Nat. Hist., v. 8, p. 116, pl. 7, fig. 10. As can be seen on the lower data slip, the name originally applied (and recommended by Dr. Torre) was *L. pictus mcgintyi*, but *L. fasciatus pictus* (Reeve, 1842) (originally *Achatina pictus* with a type locality of Cuba) was considered a Florida (Big Pine Key) *Liguus*, despite Reeve's type locality. So the Cuban shell became *L. fasciatus mcgintyi*.

agreeably surprised. A Cuban sandwich is almost a meal in itself for these sandwiches are composed of about half a loaf of bread, four or five different kinds of meat, (each with a generous portion, too) pickles and lettuce, and whatever else happens to be on hand when the cook gets the order. Along with the sandwiches we each had a bottle of that most excellent Cuban drink called "Jupiña."

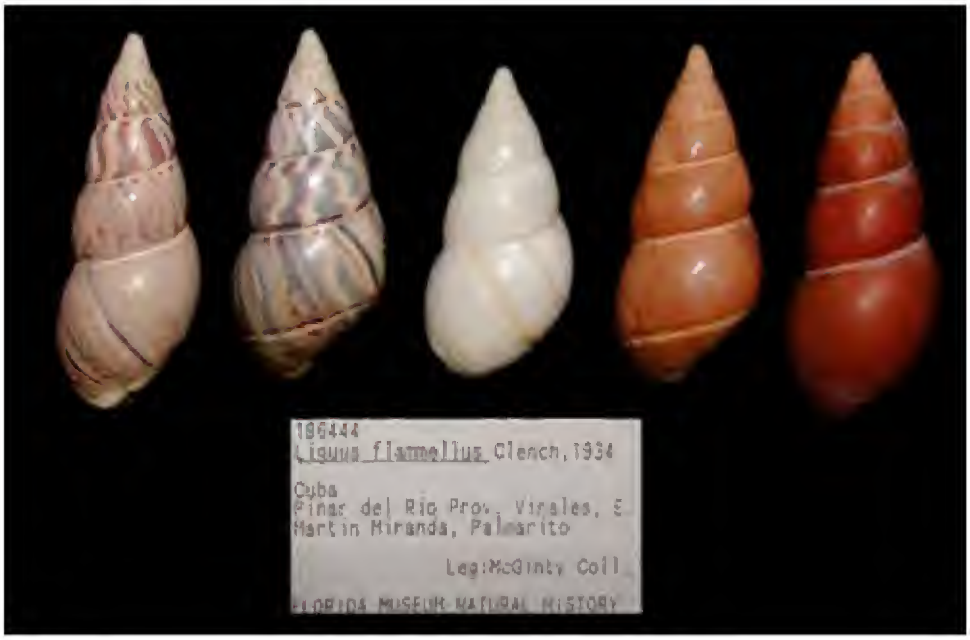
It being quite early when we reached the Central Highway again we decided to try once more to find a few specimens of *Liguus murreus* upon the Guayabal road which turns off to the south of the Central Highway not far from Peña Blanca. We kept our eyes open as we drove slowly along, ever on the alert for *Liguus*. Near Guayabal we found a few specimens of a *Liguus fasciatus* (#61) and also near La Catalina (#62).

By mid-afternoon we were back in Havana again and upon driving Dr. Bermúdez to his quarters found Dr. Aguayo waiting there for him. Aguayo was very much interested in seeing the specimens of the new form of *Liguus* which we had found and was very much pleased when we presented him with a number of the shells. Later when we met the rest of our party back at our hotel and showed them what we had discovered they too were most enthusiastic. Upon showing the specimens to Dr. Torre that evening he assured us that this was truly a new form of *Liguus* and suggested the name *Liguus pictus mcgintyi* . We gave him a number of our specimens for his own collection. Dr. Torre suggested that we send samples to Mr. Clench at Harvard Museum and allow him to name it for us. It was a most peculiar coincidence that upon the very last collecting trip that we were to make we were destined to uncover the real find of our entire stay upon the Island of Cuba.

In the morning Dad and I went over to the Museum to visit with Dr. Bermúdez and to get some photographs of him to take back with us. He was very obliging and posed a number of times for us and then too, gave Dad a few more shells for his collection. Tom and Bud had remained at the hotel and worked all morning on the packing of our specimens preparatory to our trip back to Boynton. Dad and Tom spent the afternoon with Dr. Torre at his home where he gave them some more very rare shells. Bud and I did some more packing while they were gone and then in the evening all hands kept busy with still more shell packing. I guess we all packed shells in our dreams that night!

The next morning we all went down to the office of the steamship company to get our papers in shape for leaving Cuba and to pay our head-tax of three dollars per person as was required of all aliens upon leaving the country. In the afternoon we all made a call upon Dr. Torre and attempted to thank him as best we could for his wonderful kindness and help in making our expedition a real success. Dad and Tom visited with Dr. Aguayo at his home after our dinner that evening while Bud and the writer worked upon more of the shell packing. When the others finally returned we put them to work packing and everyone kept busy until about 1 AM at which time one by one they all slipped off to go to bed leaving the writer working on until four o'clock in the morning. Finally things were pretty well in shape for our departure and I too "hit the hay."

At 8:30 AM we loaded our little car to the "gunnels" with various packing boxes filled with shells, our personal baggage and four passengers. Upon arriving at the dock we had the expected difficulty in getting our packages on board the steamer. We had thirty or more packages to take aboard and there was a mad rush by the porters to get the allowed ten cents per package, loaded on board. We could see no reason why three able bodied young men should throw away three or four dollars to carry some light cardboard packages about fifty feet. Then too we didn't want any of the bundles to be lost in this mad rush of porters all about us. Everything had to be taken out of the automobile before the steamship people would transport it so we had quite a pile


Liguus flammellus Clench, 1934
Cuba
Pinar del Rio Prov., Viñales, E
Martin Miranda, Palmarito
Leg: McGinty Coll
FLORIDA MUSEUM NATURAL HISTORY

Some of the *Liguus flammellus*, collected by McGintyi in Cuba. From left to right: *L. flammellus russelli* Clench, 1935, *L. flamellus flamellus* Clench, 1934, *L. flammellus organensis* Clench, 1934, and the two brown specimens on the right are *L. flammellus carbonarius* Clench, 1934. Photo by Pete Krull and Bill Frank of specimens from the Florida Museum of Natural History; accessible at Jacksonville Shell Club web site: www.jaxshells.org/liguus.htm.

before us. By working in relays we finally succeeded in placing all of the luggage before a gate just in front of the gang-plank but try as we would we could not get anyone to open it up for us. At last admitting defeat we made a compromise with one of the porters to carry our luggage thru the gates and over the gang-plank of the ship, a distance of perhaps twenty five feet, for the bargain price of 50 cents. It must have been a very queer sight to the passengers upon the steamer to see us trudging up to our staterooms with all of this baggage for we were afraid to leave the valuable shells down below with the ordinary baggage. Bud had brought along a large Navy duffle bag and now as he trudged up to his stateroom with the great sack bulging to the limit he must have seemed quite a strange tourist! At any rate, to judge by the curious glances of the passengers we were indeed strange creatures.

We were all so tired when things were straightened away on shipboard that soon after the steamer pulled out for Key West at ten AM everyone turned into his bunk for a much needed rest. A good sea was running that day and the little "CUBA" tossed around considerably at times but Key West was sighted at about 3:30 PM and the boat docked only to deliver us to the mercy of the US Customs Officers. By this time they were our chief worry for should they demand that we unpack all of the boxes and repack them again it would take about a week of steady work! You see, each shell was individually wrapped in tissue paper to prevent breakage in shipment. When all of our luggage was passed thru with only a perfunctory inspection we were so happy that we could have shouted for joy. Of course we had to wait until the other passengers had been passed thru before the Customs men could spare the time to look over our great pile and it was about 5 PM before we had been cleared.

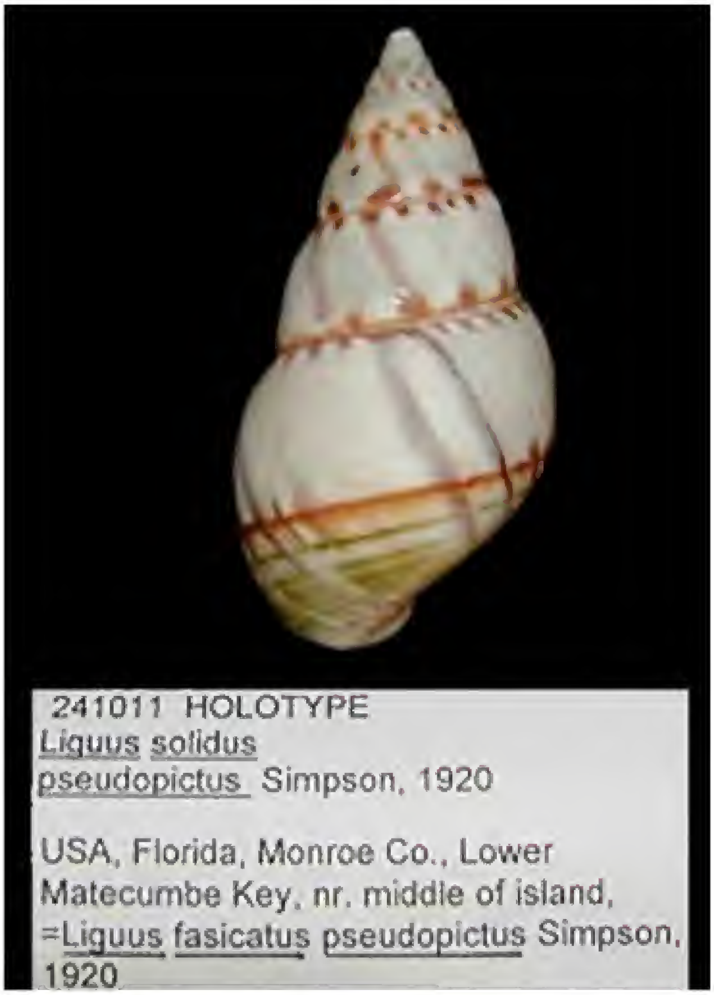
First of all it was decided to visit Chester Thompson who made his living by operating a marine curio shop in town. He proved to be a pleasant chap indeed and showed us thru his shop which was filled with every sort of curio imaginable. After leaving Thompson's we hunted up a place to stay for the night. Luckily we found very good accommodations at the Robert's House, run by a man and his wife with clean rooms and reasonable rates.

That evening we ate dinner at a small restaurant in town where "home-cooking" was featured and how good the food, real American food, tasted to us after eating for so long in Cuba. The bread actually tasted like cake to us and as for the American cigarettes, well, they were so mild that we could hardly tell that we were smoking at all!

The next morning was spent in collecting upon Stock Island which is the Key just east of Key West. Here we found the rare *Liguus solidus solidulus* Pilsbry, a pale yellowish banded snail, living upon trees bordering the golf course. These shells proved to be quite scarce but we found also living with the *Liguus* another shell, *Oxystyla reses* which at the time was very abundant. A number of *Drymeus multilineatus* were found here also. Mosquitoes were bad here because the land was low and we later learned that "red bugs" made this key their headquarters.

Driving on, we reached Big Pine Key at about 1 PM and since it was on this key that the rare *Liguus solidus graphicus* had been found years ago we decided to put up for the night at the Big Pine Key Inn and make an attempt to see if any of these shells still lived. We were nicely taken care of at the Inn and after transferring a portion of our baggage to our rooms we started upon a futile search for *Liguus*. The Key cannot be covered very well by auto however, and since we did not have long to search we are not yet convinced that this form is absolutely extinct. Somebody may find it living on a remote part of this Key. (No living specimens have been taken in this century.)

One thing of interest upon this Key is a plant in which sharks are utilized to good advantage. A regular fleet


241011 HOLOTYPE
Liguus solidus
pseudopictus Simpson, 1920

USA, Florida, Monroe Co., Lower
Matecumbe Key, nr. middle of island,
=Liguus fasicatus pseudopictus Simpson,
1920

Returning to Florida, Tom McGinty (Paul's brother) finds *Liguus fasciatus pseudopictus* Simpson, 1920 (then known as *L. solidus pseudopictus*). Shown here is the holotype at the Florida Museum of Natural History, photographed by Pete Krull and Bill Frank, as seen on the Jacksonville Shell Club web site: www.jaxshells.org/liguus.htm.

of small boats, which are manned by negroes, is maintained. The sharks caught in nets are brought in to the plant where the hide is made into leather, the liver and insides produce oil, the teeth and eyes are used for jewelry, and the fins are removed and sold to the Chinese who pay fancy prices for these delicacies from which they make a kind of soup. What remains of the sharks is then made into fertilizer and the stench about the place was anything but pleasant!

It was a pleasant evening at the inn after dinner. We visited with the other guests who like ourselves expected to take the ferry for Matecumbe Key in the morning. After an early breakfast, and a most excellent one, we left for the ferry which was only a few miles away. We stopped upon No Name Key to see if there were any *Liguus* but while a few dead specimens with little color left were found upon the ground we could find no living ones here. The mosquitoes were so bad here that all except Tom were obliged to stop searching and return to the car. Mosquitoes never bothered him very much it seemed. (Ferry ran out of No Name Key.)

Soon we were comfortably settled upon the ferry with nothing to do but relax and watch the countless little keys unfold before us as others slipped out of sight to our stern. Time passed swiftly and almost before we realized it one o'clock had rolled around and we were unloading at Lower Matecumbe Key. At last we were really on the road to home for now we could drive directly thru to Boynton. Everyone was anxious to get home again and what tales we could tell!

Nevertheless, since it was still fairly early in the day it was decided to spend the afternoon in collecting shells upon this key where a number of *solidus* forms could be taken. With a rapid change of clothing we prepared ourselves in khaki for the collecting and just as we were about to break into the brush a carload of friends who we had made on the boat passed and shouted a farewell. They must have thought it strange that we had so suddenly changed our appearances.

Luck was with us once more for Tom found an extremely beautiful specimen of the *Liguus solidus pseudopictus*. It was what is known to collectors as a "dark *pseudopictus*" and very rare. With this prize and a number of other forms which live here we finally packed up once more for the journey home. We left Lower Matecumbe at about 5 PM and arrived in Homestead in time for dinner there.

The rest of the trip was without incident and it was a happy moment indeed when we entered our home at Boynton that evening. We were expected and there was so much excitement about our return that it was hard to tell whether we were happier to see our folks again or they were happier to have us back. What a glorious time we had!

In closing may I say that if by writing these lines I have provided a way for the members of our party to freshen or keep alive the memories of those pleasant days which we spent together I shall have been well repaid for the effort which setting forth in my own words the tale of our adventures involved. On the other hand should it be possible that upon reading what I have written someone outside of our own party will have formed a desire to visit the sunny Isle of Cuba and see with his own eyes any or all of the many strange and beautiful sights which confronted us, I shall truly feel doubly repaid for my efforts.

[signed] PAUL L. MCGINTY

Appendix to the Cuban Trip

In our rooms at the Maison Royale Hotel in Havana stood a great wooden wardrobe-cabinet. It had ornamentally carved massive doors which opened into the room and stood considerably higher than a man's head. It seemed to be a heaven-sent gift to the conchologists for it was large and roomy inside, allowing plenty of space for the storage

Paul McGinty from the Florida Museum of Natural History archives.

of boxes of shells. Then too, it had a lock and key upon the door which was unlocked only while we were in our rooms.

As time went on the quantity of specimens which we were amassing became too great to properly clean. Eventually it came to pass that upon opening the door to the wardrobe one had to brace both feet in order to prevent himself from being bowled over by a wave of nauseating atmosphere which was sure to emerge. At this stage Maxwell came forward to save the day with the suggestion that we apply camphor-shavings as a deodorant. Each time he opened the door thereafter, Maxwell would sniff cautiously for a moment and then say very seriously, "Yes, I believe that the camphor has the upper hand."

Another incident worth relating took place in the same quarters. It seems that the day's collecting had been quite fruitful and vast numbers of *Cepolis* and *Liguus* shells had been taken. For want of better containers some of the shells had been placed in paper bags. In the middle of the night the writer awoke and upon turning over in bed noticed something dark upon the wall nearby. Cautiously he touched it only to have it fall clattering to the tiled floor. By the sound it made he knew that it was a snail shell and a moment later, with the room lighted, snails were to be seen climbing about everywhere. Their moisture had softened the paper-bags allowing them to crawl away. What a queer sight we must have presented as we attempted to poke the shells from the walls and high ceiling. This was a new experience; collecting shells in one's hotel room while leisurely clad in pajamas!

COLLECTING STATIONS IN CUBA, PAUL P. MCGINTY, NOVEMBER 1930

- Station #1. One mile east of Marianao. Found in old stone ruins under rocks. Friday, Nov. 7, 1930.
- Station #2. Three miles west of Matanzas, *Liguus fasciatus fasciatus* Mull. Typical. Found on Salvadera trees along road. Portuondo, Dr. Torre's friend aids us in collecting. Nov. 8.
- Station #3. Monserrate Hermitage (near), *Liguus fasciatus fasciatus* Mull. Typical. Found on bushes and small trees. Nov. 8.
- Station #4. On road to the Bellamar Caves, *Cepolis bonplandi* Lamk. found on Salvadera trees along road. Nov. 8.
- Station #5. Two miles east of the Bay of Matanzas, *Cerion magister* Pil. & Van. (Found on sea-grape and small bushes near beach) Nov. 8.
- Station #6. Rangel. Pinar del Río Province, Sierra de los Organos, shells given by Dr. Torre.
- Station #7. *Cerion mumia fastigata* Mayn., Vedado, Havana. See #19 (Aguayo).
- Station #8. Miramar, west of Havana, (Almendares) found near sidewalks, *Cerion mumia mumia* Brug.
- Station #9. Opposite Havana Yacht Club, Havana, *Urocoptis sinistra* and *poeyana*, found under rocks on hillside.
- Station #10. Military Yacht Club, west of Havana, *Cerion salvatori* and variety. Under rocks and stones near beach.
- Station #11. At old tower, near Military Yacht Club, *Cerion chrysalis*.
- Station #12. Ceiba (east), *Eutro. conica* & *Liguus*.
- Station #13. Capellanías, *Urocoptis*, *oviedoiana*.
- Station #14. West of #13 on Artemisa Road, white *Liguus*.
- Station #15. Las Mangas, *Liguus* on Royal Palm Trees.
- Station #16. One mile west of Las Mangas, *Liguus* found on trees.
- Station #17. Near Candelaria, *Liguus* found on Royal Palms, Gumbo limbo, and telegraph poles.
- Station #18. Peña Blanca, Sierra Anafe, *Urocoptis alleni*, *Chondropoma*, etc.
- Station #19. Santa Clara Battery, Havana, *Cerion mumia fastigata* Mayn.
- Station #20. Rangel, east side of mountain, no live *Lig. blainianus* found. Many other interesting species found here.
- Station #21. Quarry Kilometer 14, Viñales Road, Pinar del Río, Cuba.
- Station #22. San Vicente, north of Viñales, (Los Baños). On west side of road ¾ mile south of the Hotel Baths.
- Station #23. Sierra de Viñales, Cove of Delight.
- Station #24. ¾ mile beyond Cove of Delight, Sierra de Viñales.
- Station #25. La Chorrera (near entrance and on opposite side of road from the Gomez Cave, Viñales).
- Station #26. Sierra de Galeras, north side of river cave. (*Ch. hendersoni*).
- Station #27. Sierra de Galeras, south side near El Abra.

- Station #28. Sierra El Abra, south side ¼ mile from El Abra.
- Station #29. Sierra El Abra, south side and small mogotes one and half miles from pass.
- Station #30. Dos Hermanos, western one. (Viñales).
- Station #31. Dos Hermanos, eastern one (east side towards southern end).
- Station #32. El Queque (El Tumbadero) south-west part.
- Station #33. San Vicente de los Baños, near River Cave.
- Station #34. Near Mogote El Capone. North of Viñales.
- Station #35. El Queque. Starting at south side and climbing to the summit, Viñales.
- Station #36. Rangel Hill, south west side, *Liguus blainianus*, Pinar del Río.
- Station #37. One half mile west of Las Mangas, Pinar del Río. *Liguus crenatus* and *fasciatus* found on Royal Palms, bushes, etc., (Pinar del Río).
- Station #38. Finca La Luisa and east, *Urocoptis* and *Liguus*. Central Highway east of Havana in Havana Province.
- Station #39. San Francisco, *Pleurodonte sagemon*, Station A and B. Havana Province.
- Station #40. Loma Camoa, west side of road, side and summit, Havana Province.
- Station #41. Somorrostro, Camoa, north side of road and opposite from Loma Camoa.
- Station #42. Near Carmen, north and south. *Lig., Ur., Cepolis.*
- Station #43. San José de las Lajas, *Urocoptis*. Hav. Prov.
- Station #44. Loma Candela, *Urocoptis*, Hav. Prov.
- Station #45. Between Güines and San Nicolás, yellow *Liguus*, Hav. Province.
- Station #46. *Liguus fasciatus* and *crenatus* on trees on road from San José and Tapaste. Locality Tapaste, Hav. Prov.
- Station #47. *Liguus fasciatus* and *Cepolis* on trees along road to Mendoza and Jaruco, Havana Province.
- Station #48. #1. *Chondropoma* and *Tudora*, Finca el Aljibe, Hav. Prov. (Mendoza). Also found *Urocoptis* here.
- Station #49. Pozo Bonilla, Sitio Perdido, Jaruco, Hav. Prov., *Ur., Chondropoma, Tudora, P. aricoma aricoma.*
- Station #50. Sitio Perdido, Sierra de Jaruco, *Ur.*, etc., Hav. Prov.
- Station #51. *Liguus crenatus*, one mile south of Cárdenas, Matanzas Prov.
- Station #52. Los Mangos, *Ur. stearnsi* and *Liguus*. Hav. Prov.
- Station #53. West of Jamaica, *Cepolis* and *Liguus crenatus* on big trees. Hav. Prov.
- Station #54. *Liguus fasciatus* and *crenatus* (side road to Aguacate) Madruga, Hav. Prov.
- Station #55. *Urocoptis*, *Chondropoma*, and *Liguus*, Madruga, Hav. Prov.
- Station #55a. *Lig. cren.* and *fasc.*, Central Highway to Managua, Hav. Prov.
- Station #56. *Lig. fasciatus* (some near *Liguus murreus*) Managua to Havana, Hav. Prov.
- Station #57. *Liguus fasc.*, Guanajay, on road to Mariel, Pinar del Río Province.
- Station #58. *Liguus fasc.* and *cren.* (*Liguus fasc. mcgintyi* Cl.) (new locality) also *Cerion johnsoni*, Cueva del Chivo, east of Mariel, Pinar del Río. Prov.
- Station #59. *Cerion marielinum*, Faro de Mariel, Mariel, Pinar del Río Province.
- Station #60. *Liguus fasciatus* and *Cerion marielinum*, on road short way south of lighthouse. Locality near #59.
- Station #61. *Liguus fasciatus,* Guayabal, near Guanajay, Havana Prov.
- Station #62. *Liguus fasciatus,* near La Catalina, Hav. Prov. Cuba.

FINIS

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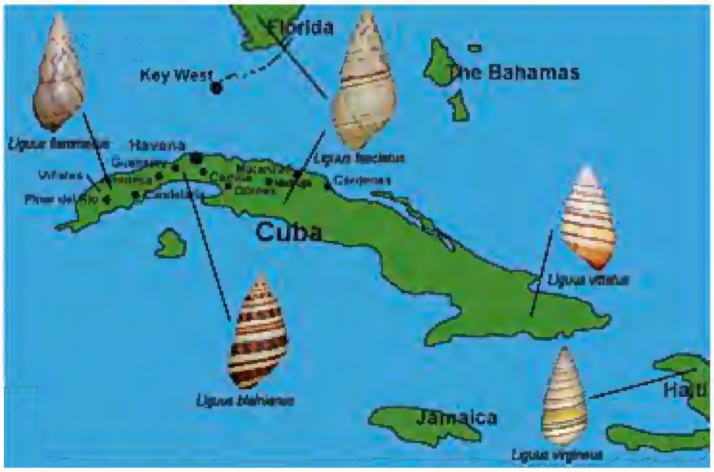
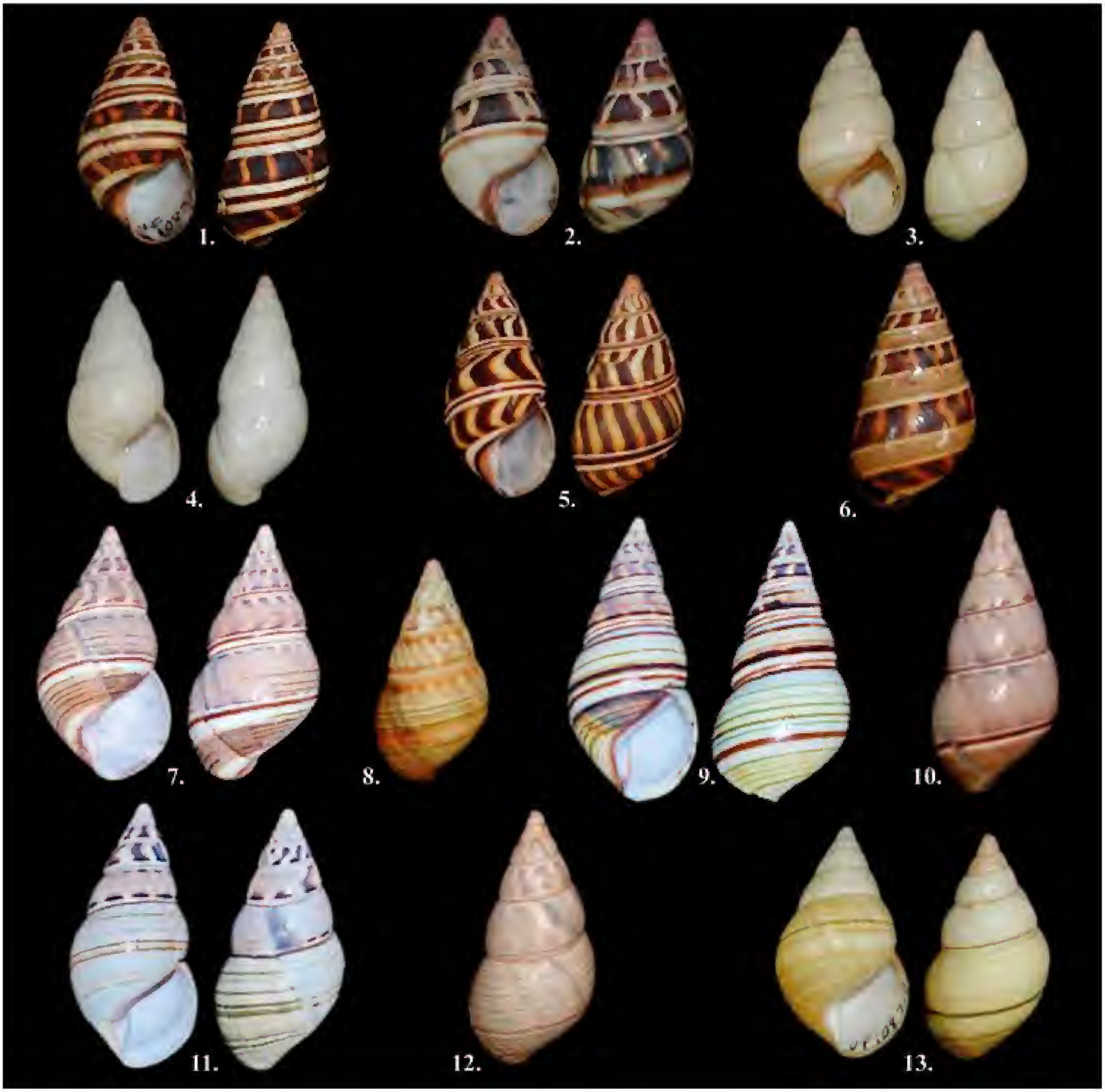
On the following pages are some (37) of the numerous (75 to 100) *Liguus* species, subspecies, and forms found on the island of Cuba. *Liguus* are found on Cuba, Hispaniola (Dominican Republic and Haiti), and in southern Florida and the Florida Keys. *Liguus* taxonomy is a contentious issue with conflicting opinions in the literature and among "experts." The names presented here are based upon data from old collections, updated, as possible, with more modern references. The names are presented as subspecies within four different species groups (*L. blainianus, L. fasciatus, L. flammellus,* and *L. vittatus*) because that seems to be accepted convention. A fifth species (*L. virgineus*) does not occur in Cuba, but rather in Haiti and the Dominican Republic. Specimens listed with an asterisk (*) were photographed by Pete Krull and Bill Frank at the Florida Museum of Natural History. These and others can be viewed at www. jaxshells.org/cuba.



***Liguus* geographical distribution, from a similar map on www.liguushomepage.com.**

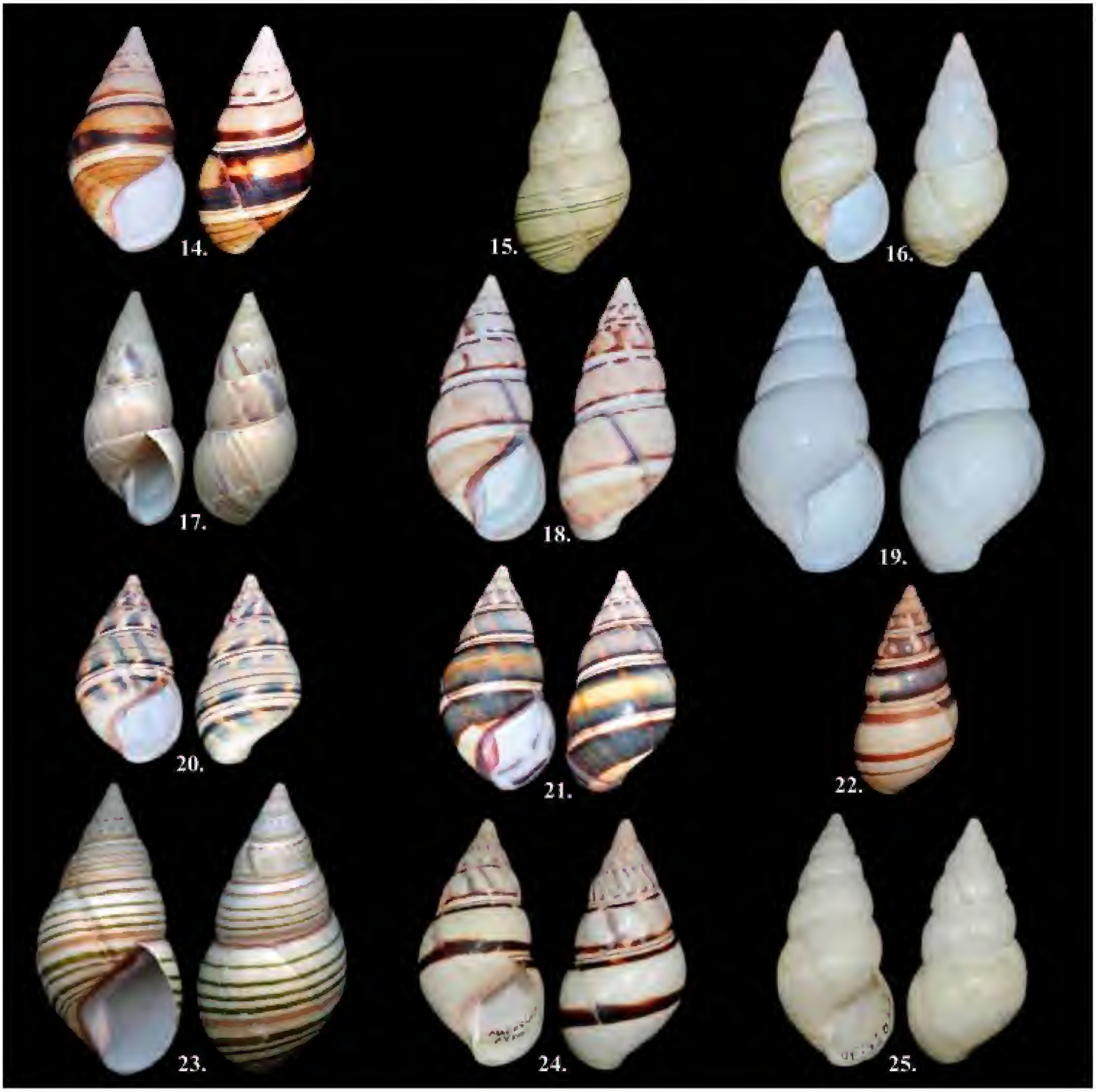
Cuban *Liguus blainianus* (1-6) & *Liguus fasciatus* (7-13)



1. *L. blainianus blainianus* (Poey, 1851) (45mm) El Retiro, Rangel, Pinar del Río Prov.* **2. *L. blainianus fairchildi* Clench, 1934** (42mm) Herradora, Cabanas, Pinar del Río Prov.* **3. *L. blainianus flava* Clench, 1934** (41mm) Cueva del Chivo, N. coast of Pinar del Río Prov.* **4. *L. blainianus jaumei* Clench & Aguayo, 1932** (47mm) road between Mangas & Candelaria, Pinar del Río Prov. (McGinty collection)* **5. *L. blainianus pilsbryi* Clench, 1935** (43mm) Sierra de Rangel (lower reaches), Pinar del Río Prov.* **6. *L. blainianus* ssp. *politus* (Torre MS)** (46mm) Sierra de Rangel (upper reaches), Pinar del Río Prov. (McGinty collection).*

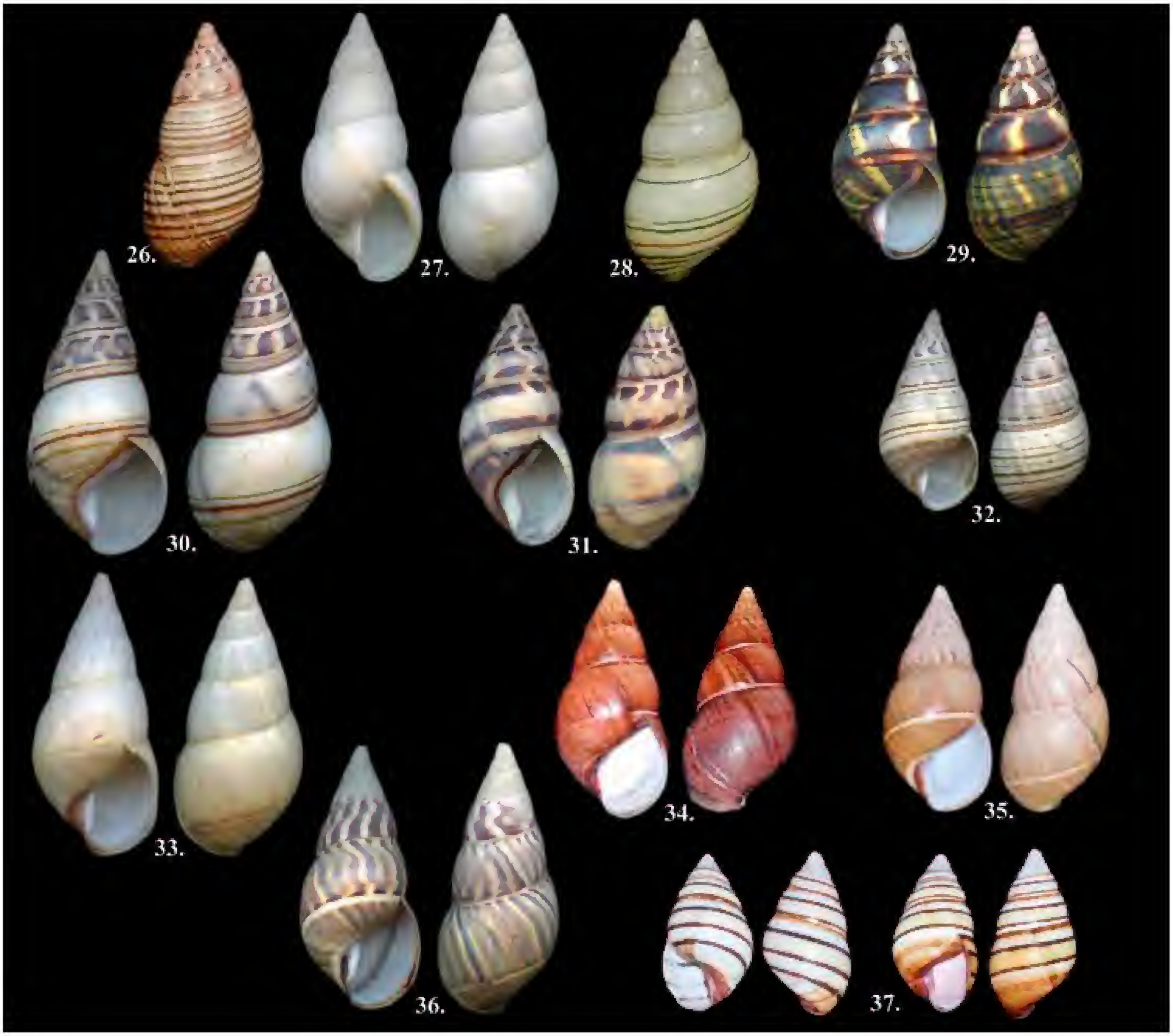
7. *L. fasciatus achatinus* Clench, 1934 (48mm) (gray phase) Cuba. **8. *L. fasciatus angelae* Clench & Aguoyo, 1934** (43mm) Cayo Maja, Santa Clara Prov.* **9. *L. fasciatus archeri* Clench, 1934** (62mm) Santa Ana **10. *L. fasciatus artemisiae* Torre (no date, MS?)** (60mm) Habana Prov.* **11. *L. fasciatus austinianus* Guitart, 1945** (52mm) Sancti Spiritus Prov. **12. *L. fasciatus barroi* Jaume, 1952** (50mm) San Diego de los Baños, Mogote #10, Pinar del Río Prov.* **13. *L. fasciatus caroli* Bartsch, 1937** (49mm) Turiguano, Camagüey Prov, N. coast*

Cuban *Liguus fasciatus* (14-25)



14. ***L. fasciatus caribaeus* Clench, 1935** (49mm) Esperanza, N. coast, Pinar del Río Prov. **15.** ***L. fasciatus crenatus* (Swainson, 1821)** (55mm) Camagüey, Camagüey Prov.* **16.** ***L. fasciatus cubensis* Clench, 1934** (50mm) Hoyo de Gallardo, Sierra Tumadero, Viñales, Pinar del Río Prov. **17.** ***L. fasciatus fairchildi* Clench, 1934** (48mm) Viñales, Pinar del Río Prov. **18.** ***L. fasciatus fasciatus* (Müller, 1774)** (57mm) Mogote del Queque, Pinar del Río Prov. **19.** ***L. fasciatus feriai* Clench, 1934** (60mm) Babinez, Holguin, Oriente Prov. **20.** ***L. fasciatus festiva* (Müller, no date)** (38mm) Tarara, Habana Prov. **21.** ***L. fasciatus goodrichi* Clench, 1934** (49mm) Las Villas, Sancti Spiritu Prov. **22.** ***L. fasciatus guitarti* Jaume, 1952** (46mm) Sancti Spiritus, Cagueiras, Santa Clara Prov.* **23.** ***L. fasciatus judasense* Jaume, 1952** (60mm) Punta Alegre, Camagüey Prov. **24.** ***L. fasciatus laureani* Torre (no date)** (55mm) Macurijes, Pinar del Río Prov. (McGinty collection)* **25.** ***L. fasciatus mariae* Clench, 1936** (55mm) Ojo de Agua, Martinas, Pinar del Río Prov. (McGinty collection)*

Cuban *Liguus fasciatus* (26-32), *Liguus flammellus* (33-36) & *Liguus vittatus* (37)



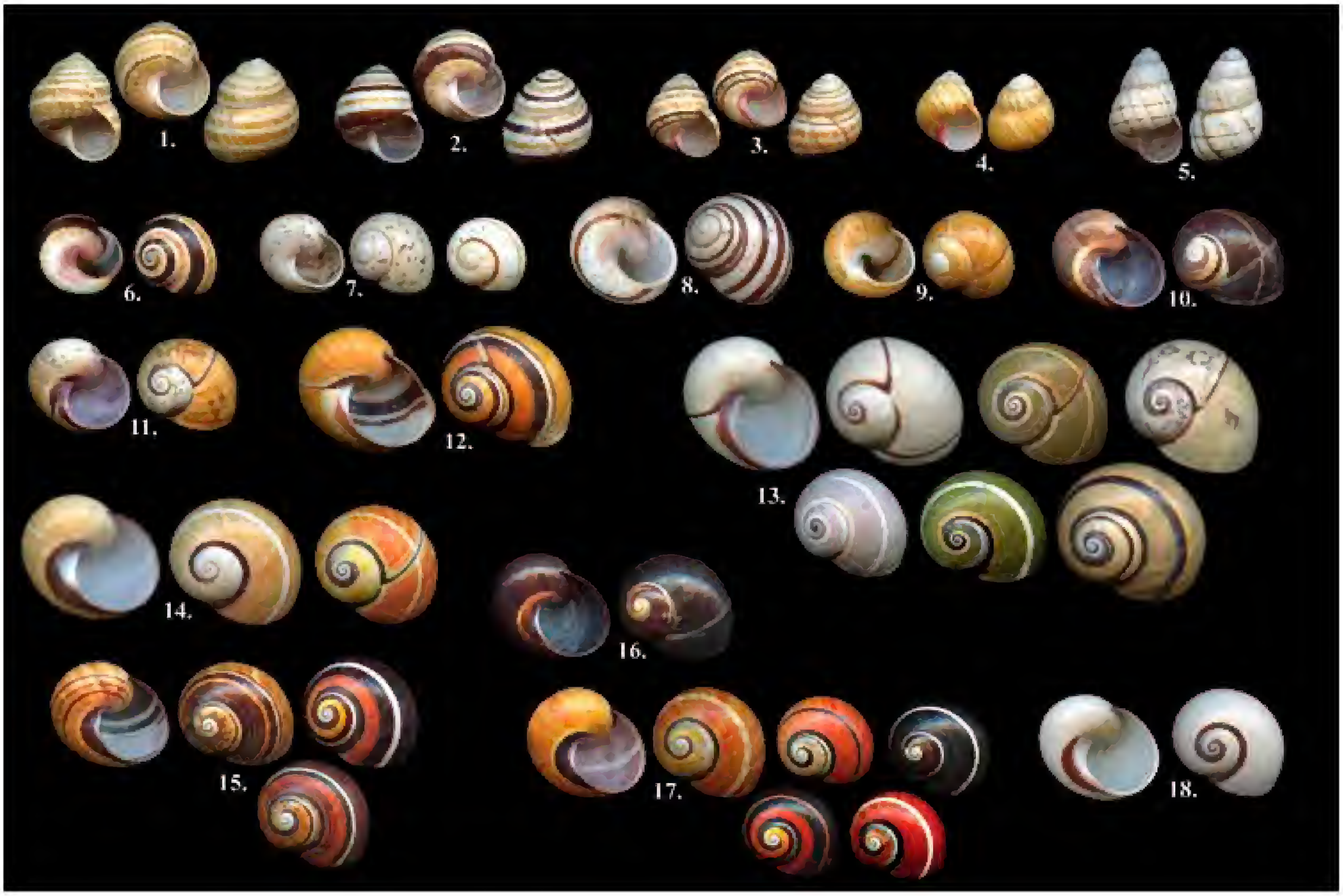
26. ***L. fasciatus occidentalis*** **Torre (no date)** (42mm) Guajabon, Sierra Chica, Pinar del Río Prov.* **27.** ***L. fasciatus pinarensis*** **Clench, 1934** (45mm) Punta del Este, Isle of Pines. **28.** ***L. fasciatus salvatori*** **Torre, 1953** (45mm) Palacios, Pinar del Río Prov.* **29.** ***L. fasciatus sanctamariae*** **Sanchez-Roig, 1951** (41mm) Cayo Santa Maria, Caibarien, Villa Clara Prov. **30.** ***L. fasciatus sissilabre*** **Nodal, 1947** (60mm) Mogote del Queque, Pinar del Río Prov. **31.** ***L. fasciatus torrei*** **Cleanch, 1934** (52mm) Mogote del Queque, Pinar del Río Prov. **32.** ***L. fasciatus viridus*** **Clench, 1934** (43mm) Cotorro (?), Matanzas Prov.

33. ***L. flammellus bermudezi*** **Clench, 1934** (50mm) Mogote Cao, Viñales, Pinar del Río Prov. **34.** ***L. flammellus carbonarius*** **Clench, 1934** (46mm) Mogote Francisco Pita, Viñales, Pinar del Río Prov. **35.** ***L. flammellus cervus*** **Clench, 1934** (45mm) Viñales, Pinar del Río Prov. **36.** ***L. flammellus flammellus*** **Clench, 1934** (50mm) Mogote del Evaristo, Iglicia, Viñales, Pinar del Río Prov.

37. ***L. vittatus vittatus*** **(Swainson, 1822)** (43-44mm) (the more common (of an uncommon species) sinistral specimen on the left and dextral on the right) Ensenada de Mora, Oriente Prov.

Cuban *Polymita brocheri* (1-5), *Polymita muscarum* (6-10), & *Polymita picta* (11-18)

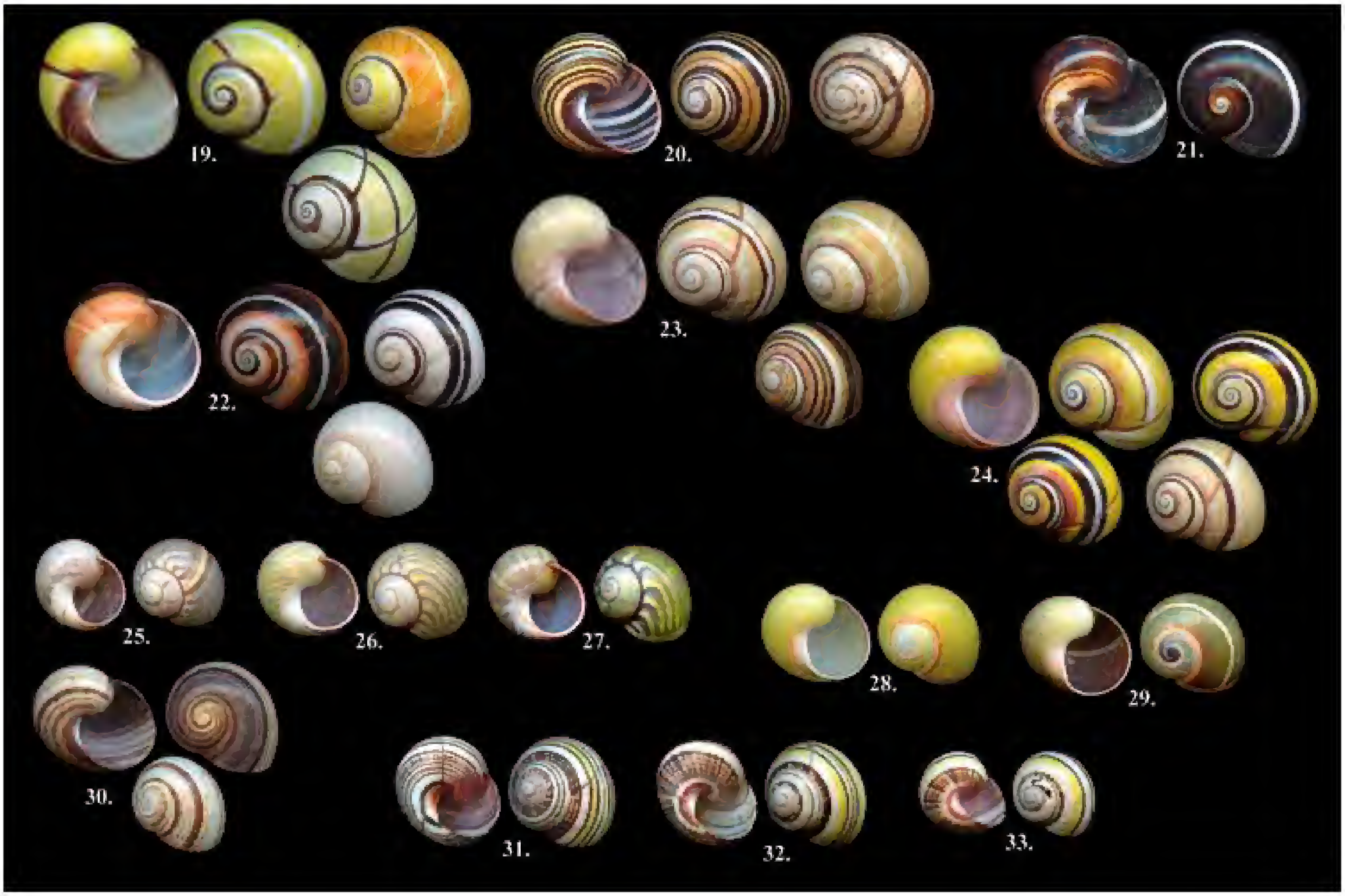
Like the *Liguus*, the genus *Polymita* (family Helminthoglyptidae) has its share of taxonomic issues. *Polymita* are endemic to Cuba and there are generally six species recognized within the genus; *Polymita brocheri* (Gutiérrez in Pfeiffer, 1864), *Polymita muscarum* (Lea, 1834), *Polymita picta* (Born, 1780) (type species), *Polymita sulphurosa* (Morelet, 1849), *Polymita venusta* (Gmelin, 1786), and *Polymita versicolor* (Born, 1870). Each species then has several subspecies and named varieties or forms. The subspecies and named forms were, with only a couple of exceptions, the work of Dr. Carlos de la Torre y Huerta (1950) in "El Género *Polymita*." *Memorias de la Sociedad Cubana de Historia Natural "Felipe Poey."* Vol XX, No 1: 5-20, plates 1-11, 1950. Dr. Torre, who figures prominently in the McGinty manuscript, was a Cuban naturalist who specialized in land mollusks, Recent and fossil. The six species of *Polymita* are generally accepted, but problems arise



1a,b,c. *P. brocheri brocheri* (Gutiérrez in Pfeiffer, 1864) 21mm, Baracoa, Oriente Prov. **2a,b,c. *P. brocheri brocheri* (Gutiérrez in Pfeiffer, 1864)** 21mm, Baracoa, Oriente Prov. **3a,b,c. *P. brocheri cuestana* Torre, 1950,** 19mm, Maisi, Baracoa, Oriente Prov. **4a,b. *P. brocheri ovandoi* Torre, 1950,** 18mm, Mesa de Ovando, Oriente Prov. **5a,b. *P. brocheri* ssp.** 21mm, Baracoa, Oriente Prov. **6a,b. *P. muscarum festiva* Torre, 1950,** 21mm, Holguin, Oriente Prov. **7a,b,c. *P. muscarum muscarum* (Lea, 1834)** 20mm, Holguin, Oriente Prov. **8a,b. *P. muscarum splendida* Torre, 1950,** 24mm, Holguin, Oriente Prov. **9a,b. *P. muscarum subrocheri* (Pilsbry, 1889)** 19mm, Holguin, Oriente Prov. **10a,b. *P. muscarum tanamensis* Torre, 1950,** 24mm, Holguin, Oriente Prov. **11a,b. *P. picta fuscolimbata* var. *pseudo-muscata* Torre, 1950,** 25mm, Baracoa, Oriente Prov. **12a,b. *P. picta fuscolimbata* var. *pseudo-nigrolimbata* Torre, 1950,** 30mm, Baracoa, Oriente Prov. **13a,b,c,d,e,f,g. *P. picta fuscolimbata* Torre, 1950,** 29-31mm, Baracoa, Oriente Prov. **14a,b,c. *P. picta iolimbata* Torre, 1950,** 30mm, Quemada, Oriente Prov. **15 a,b,c,d. *P. picta iolimbata* var. *iofasciata* Torre, 1950,** 28mm, Baracoa, Oriente Prov. **16a,b. *P. picta iolimbata* var . *iosaturata* Torre, 1950,** 28mm, Baracoa, Oriente Prov. **17a,b,c,d,e,f. *P. picta nigrolimbata* Torre, 1950,** 26-28mm, Baracoa, Oriente Prov. **18 *P. picta nigrolimbata* var . *nigrofasciata* Torre, 1950,** 28mm, Baracoa, Oriente Prov.

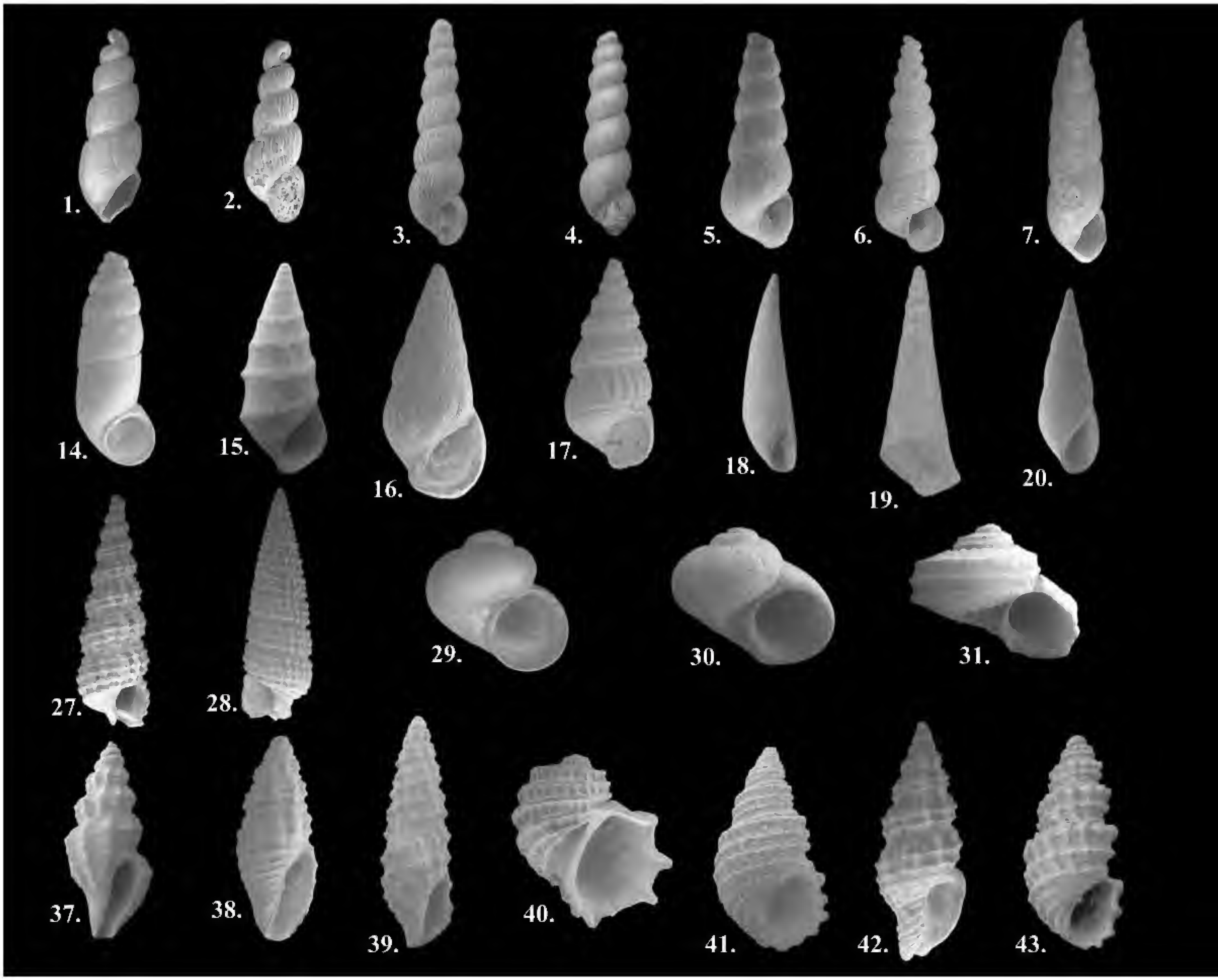
Cuban *Polymita picta* (19-24), *Polymita sulphurosa* (25-27), *Polymita venusta* (28-30), & *Polymita versicolor* (31-33)

with the subspecies and forms or varieties named by Dr. Torre. The International Congress of Zoological Nomenclature (ICZN) does not recognize form or variety names. So these names are almost like a common name designation, while many of the subspecies names do not quite fit the generally accepted criteria for subspecies (i.e., geographic isolation from other subspecies in the genus and reproduction only within the subspecies). Because arguments can and have been made on both sides of this issue, I decided to present the genus *Polymita*, in main, as listed and discussed on www.polymitahomepage.com. My primary departure from this online reference is that the author's name will be listed in reference to species or subspecies, and not variety or form. Thus the web site lists ***Polymita venusta*** **var.** ***testudinea*** **Torre, 1950**, but Torre's name is in reference to the variety name *testudinea*, which has no official status, thus the reference author must be **Gmelin, 1791.**



19 a,b,c, d. ***P. picta picta*** **(Born, 1778)** 30mm, NE coast of Oriente Prov. **20a,b,c.** ***P. picta picta*** **var.** ***multifasciata*** **(Born, 1778),** 28mm, Baracoa, Oriente Prov. **21a,b.** ***P. picta picta*** **var.** ***obscurata*** **(Born, 1778)**, 28mm, Baracoa, Oriente Prov. **22a,b,c,d.** ***P. picta roseolimbata*** **var.** ***albolimbata*** **Torre, 1950,** 27mm, W. Baracoa, Oriente Prov. **23a,b,c,d.** ***P. picta roseolimbata*** **var.** ***virgata*** **Torre, 1950,** 27mm, Playa Alanca, Baracoa, Oriente Prov. **24a,b,c,d,e.** ***P. picta roseolimbata*** **Torre, 1950,** 27-28mm, Maisi, Baracoa, Oriente Prov. **25a,b.** ***P. sulphurosa flammulata*** **var.** ***iridans*** **Torre, 1950,** 17mm, Yaguanique, Canonova, Oriente Prov. **26a,b.** ***P. sulphurosa flammulata*** **var.** ***violacea*** **Torre, 1950,** 18mm, Yaguanique, Canonova, Oriente Prov. **27a,b.** ***P. sulphurosa flammulata*** **var.** ***viridis*** **Torre, 1950,** 18mm, Yaguanique, Canonova, Oriente Prov. **28a,b.** ***P. venusta*** **(Gmelin, 1791)** 23mm, Tagabu, Oriente Prov. **29a,b.** ***P. venusta*** **var.** ***olivacea*** **(Gmelin, 1791),** 24mm, Oriente Prov. **30a,b,c.** ***P. venusta*** **var.** ***testudinea*** **(Gmelin, 1791),** 23-28mm, Malavari, Oriente Prov. **31a,b.** ***P. versicolor*** **(Born, 1780)** 21mm, Rio las Canos, Baracoa, Oriente Prov. **32a,b.** ***P. versicolor*** **var.** ***minor*** **(Born, 1780),** 19mm, Siboney, Oriente Prov. **33a,b.** ***P. versicolor*** **var.** ***reticulella*** **(Born, 1780),** 17mm, Playa Blanca, Oriente Prov.

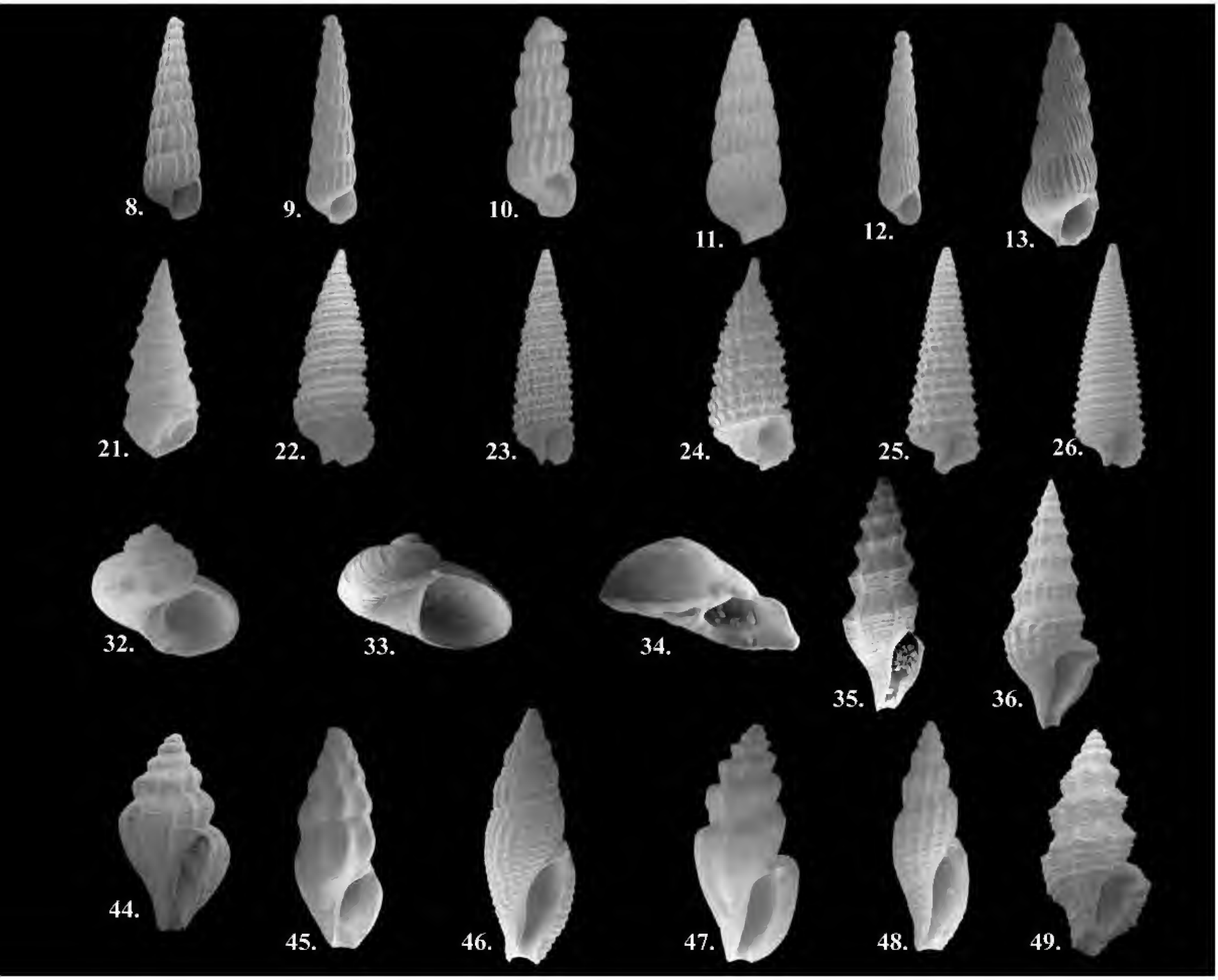
An SEM sampler of small snails from Sarasota sediment



Row A L to R: 1. *Ebala resticula* (Dall, 1889) 1.07 mm 2. *Falsoebala* unknown species [hereafter simply "sp."] 0.90 mm† 3. *Graphis underwoodae* Bartsch, 1947, 1.65 mm 4. *Henrya* sp. A 1.30mm† 5. *Henrya* sp. B 1.67 mm† 6. *Murchisonella tampaensis* Bartsch, 1947, 1.57 mm 7. *Syrnola* sp. 2.61 mm† 8. *Turbonilla* (*Chemnitzia*) sp. A 3.10 mm† 9. *T. (Chemnitzia)* sp. B 2.65 mm† 10. *T. (Chemnitzia) unilirata* Bush, 1899, 1.34 mm 11. *T. (Pyrgiscus)* sp. A 3.96 mm† 12. *T. (Pyrgiscus) protracta* Dall, 1892, 2.60 mm† 13. *T. (Pyrgiscus)* sp. B 3.94 mm†

Row B L to R: 14. *Pelycidion* sp. cf. *P. matthewi* L. Campbell, 1993, 1.12 mm† 15. *Zebina clarksvillensis* (Mansfield, 1930) 3.95 mm† 16. *Zebinella planata* (Dall, 1892) 5.52 mm† 17. *Finella dubia* (d'Orbigny, 1840) 1.68 mm 18. *Vitreolina bermudezi* (Pilsbry and Aguayo, 1933) 2.02 mm 19. *Scalenostoma* sp. 1.77 mm† 20. *Oceanida* sp. 2.11 mm† 21. (?)*Scalenostoma* sp. 2.63 mm† 22. *Cerithiopsis* sp. cf. *C. parvada* Rolán and Fernández-Garcés, 2007, 3.45 mm† 23. *C. flava* (C.B. Adams, 1850) 3.02 mm 24. *C.* sp. cf. *C. iuxtafuniculata* Rolán, Espinosa, and Fernández-Garcés, 2007, 2.84 mm† 25. *Retilaskeya* sp. cf. *R. emersonii* (C.B. Adams, 1839) 3.74 mm† 26. *Seila* sp. cf. *S. adamsii* (H.C. Lea, 1845) 3.47 mm†

Row C L to R: 27. *Metaxia* sp. 2.92 mm† 28. *Cosmotriphora* (?) sp. 3.38 mm† 29. *"Skenea"* sp. cf. *S. smithfieldensis* (Olsson, 1916) 0.71 mm† 30. *Didianema duplinensis* (Dall, 1898) 1.48 mm† 31. *Marevalvata* sp. 3.48 mm† 32. *Gelasinostoma elegantulum* (Dall, 1892) 2.69 mm† 33. *Macromphalina* sp. 1.33mm† 34. *Anticlimax calliglypta* (Dall, 1903) 2.72 mm† 35. *Cryoturris serta* Fargo *in* Olsson and Harbison, 1953, 5.69 mm 36. *Nannodiella* sp. cf. *N. pauca* Fargo in Olsson and Harbison, 1953, 5.49 mm† by Harry G. Lee



Row D L to R; upper to lower: 37. *Kurtziella atrostyla* (Tryon, 1884) 3.56 mm 38. *Cymakra* sp. 3.18 mm† 39. *Glyptaesopus proctorae* (M. Smith, 1936) 6.19 mm. 40. *Iselica lyra* (Conrad, 1835) 5.58mm† 41. *Iselica globosa* (H.C. Lea, 1843) 2.17 mm 42. *Nassarina glypta* (Bush, 1885) 3.84 mm 43. *Miralda* sp. cf. *M. havanensis* (Pilsbry and Aguayo, 1933) 1.89 mm† 44. *Brachycythara biconica* (C.B. Adams, 1850) 2.75 mm 45. *Lissodrillia* sp. 3.95 mm† 46. *Thelecythara* sp. cf. *T. floridana* Fargo in Olssson and Harbison, 1953, 4.92 mm† 47. *Agathotoma castellata* (E.A. Smith, 1888) 3.74mm 48. *Vitricythara metria* Dall, 1902, 4.37mm 49. *Glyphoturris diminuta* (C.B. Adams, 1850) 4.02 mm.

- **Images not to scale (optimally magnified for depiction of shell characters); maximum dimension in caption.**
- **Dagger (†) connotes species presumed extinct (33 of the 49 species: 67%).**
- **26 of all 49 species (53%), designated "sp.," [76% of the 33 extinct species] are apparently new to science.**

These (mostly) micromollusks were taken from SMR 10 sand and shell mine in NE Sarasota Co., FL (27.38033, -82.37788 NAD27). This is the site of the Sunday, July 14, 2013 COA Convention field trip, which event has proven to be the springboard for an ongoing study which recently entered its third year. Approximately 250 species of micromollusks (under 5.50 mm maximum linear dimension) have been culled from matrix and spoil removed from this site, at which the Lower Pinecrest beds of the Upper Tamiami Formation have been exposed. Chronostratigraphically this material was deposited during the Upper Pliocene Epoch and is ca. 3,000,000 years old.

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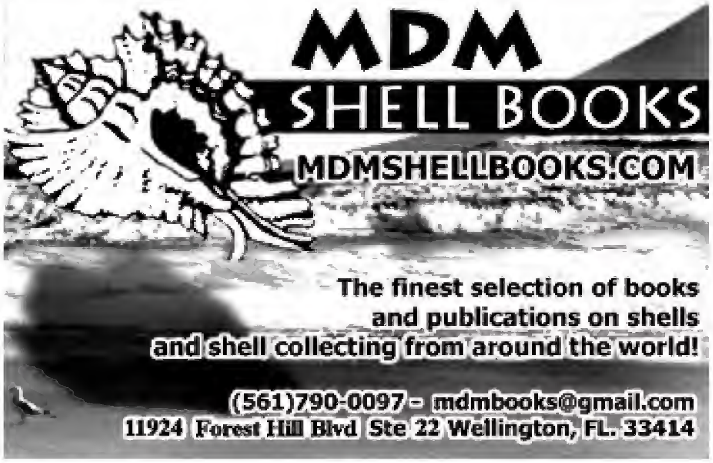
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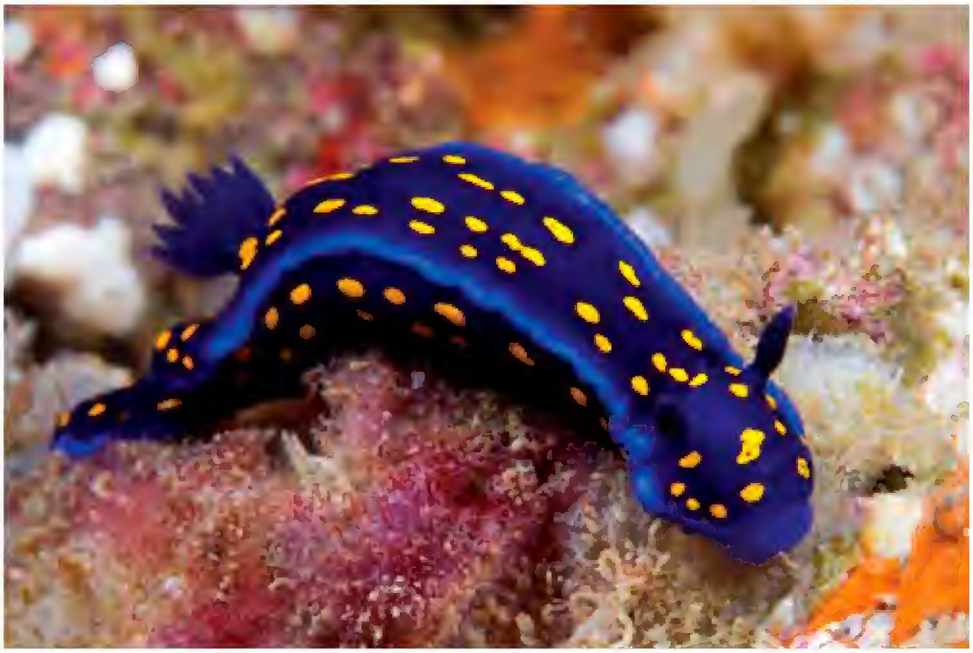
Population genetics of *Felimare californiensis*

Craig Hoover

Felimare californiensis (Bergh, 1879), is a sea slug that ranges from Baja, including both the Gulf of California and the Mexican Pacific, to Southern California. This nudibranch experienced a regional extinction in the northern part of its range during the 1970s that lasted twenty years. It has since returned to Southern California, and has been consistently found at Catalina Island during the past decade. Within the past three years, *F. californiensis* has also been sighted elsewhere along California's coast.

The population was tested for genetic structure, including samples from throughout its range. Laboratory methods included polymerase chain reaction (PCR) for amplification of the 16S and CO1 mitochondrial genes, and Sanger sequencing. Analytical methods included a haplotype network, fixation index analysis (F_{ST}), and analysis of molecular variance (AMOVA). Preliminary results indicate a need for taxonomic revision and also suggest minimal genetic structure in the population. Microsatellites will be developed late in 2015 to improve the resolution of spatial-genetic relationships within the population.



***Felimare californiensis* (image by author) grazing on sponges off the California coast. This brightly colored nudibranch is typically less than 80mm as an adult and probably lives for only one year. It began disappearing from California waters in the 1970s and was gone by 1984. It was not seen in the area for the next 20 years, until a diver spotted one off Catalina Island in 2003.**

The expected outcome of this research is a description of the spatial scale of gene flow within the population of *F. californiensis*. Recolonization of this animal in Southern California presents a unique opportunity to examine dispersal within a recent temporal context. This study of population genetics is of relevance to the conservation and potential recovery of other mollusks in Southern California that have commercial and cultural significance, such as the abalone. This research was supported by a COA grant.

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According to a 2013 article* in the journal *Marine Biology* by Jeff Goddard et al. (a project scientist at the Marine Science Institute at UC Santa Barbara), although the exact cause of the disappearance of *Felimare californiensis* from Southern California is unknown, among the key factors may have been degraded water quality in the area known as the California Bight. The Clean Water Act of 1972 started a concerted effort to reduce pollutants and protect the area from uncontrolled runoff and sewage overflows. This resulted in greatly improved environmental conditions in the area and maybe the reintroduction of this bright blue sea slug. http://www.news.ucsb.edu/2013/013484/university-californias-unofficial-favorite-sea-slug-poised-make-comeback

*Goddard, Jeffrey H.R., Maria C. Schaefer, Craig Hoover, & Ángel Valdés. 2013. "Regional extinction of a conspicuous dorid nudibranch (Mollusca:Gastropoda) in California, *Marine Biology,* 160(6): 1497-1510.

New species of Vietnam landsnails

Nguyen Ngoc Thach & Franz Huber

Landsnails are present in Vietnam with various sizes (from tiny *Hypselostoma crossei* at only 3mm to giant *Bertia pergrandis* wider than 75mm), assorted shapes (from discoidal *Möllendorffia blaisei* to trochoidal *Ganesella acris*), and attractive colors (such as *Amphidromus huberi*). Many Vietnam landsnails have been described, but most of them were collected in North Vietnam; the snails in South Vietnam have been poorly studied to date. In this article, four newly described species of landsnails from South Vietnam are presented with three species in the genus *Amphidromus* (family Camaenidae) and one species in the genus *Pterocyclos* (family Cyclophoridae).

- ***Amphidromus naggsi*** Thach & Huber, 2014 (Fig.1-4)

This is one of the largest species of *Amphidromus* with lengths reaching 69.6mm (Fig.1). The shell is elongate and very large with a swollen body whorl and a tall spire. Mean adult size is 55-65mm long. The sculpture consists of deep broad spiral channels on the body whorl and fine oblique closely-spaced axial ribs (strongest on the early whorls and base). The aperture is wide with a thick calloused outer lip. The parietal wall and columella are also calloused. The color usually white. Yellow specimens are seldom seen and much sought after by collectors. The type locality is the Đơn Dương district, Lâm Đồng province. This species is similar to *Amphidromus ingens* Möllendorff, 1900, in its shape and large size, but differs with its wrinkled (not smooth) outer surface, the presence of two or three (not one) broad spiral channels on the body whorl, a more prominent sculpture on the penultimate whorl, and a more elongate aperture. This species was named after Dr. Fred Naggs of the London Museum of Natural History, London, and is a favorite of collectors due to its rarity and large size.

- ***Amphidromus huberi*** Thach, 2014 (Fig.5-8)

This is the most beautiful *Amphidromus* of Vietnam, with elongate-tapering shape and a tall spire. Mean adult size is 33-38mm long. The outer surface is smooth and ornamented with many colors (blue, yellow, red, white) and widely-spaced axial stripes between spiral bands. The aperture is sinistral and wide with a thin outer lip and the external pattern visible within. Type locality is the Đơn Dương district, Lâm Đồng province. A key diagnostic character is the presence of bisected axial stripes on the spire whorls (Fig.8). This species was named after Mr. F. Huber of Austria, and it is much sought after by collectors due to its rarity and attractive colors.

- ***Amphidromus thachi*** Huber, 2015 (Fig.9-12)

The shell is small and elongate-ovate with a low spire and adpressed sutures. Mean adult size is 28-31mm long. The periphery is rounded and the body whorl swollen and short. The aperture is usually sinistral (63.6%), and the outer lip thin, reflexed, and bordered by a narrow white line. The color is whitish with a black columella, a black outer lip, and chalky white lines beneath sutures. The columella is strongly concave, heavily calloused, and twisted at the anterior end. The type locality is between the outskirts of Nha Trang city and Cam Lâm district, Khánh Hòa province. This new species is readily recognized by the black calloused columella that is twisted at anterior end and the black outer lip that is bordered by a fine white line. This species was named after Dr Thach of Vietnam, and the supply of this landsnail cannot satisfy the demand. To date, only 11 specimens have been collected..

- ***Pterocyclos huberi*** Thach, 2015 (Fig.13-16)

The shell is small and discoidal, with a very low spire and constricted sutures. The mean adult size is 17-20mm wide. The dorsal side is flat, but concave at the central portion, with the outer surface ornamented with brown widely-spaced transverse stripes. The aperture is dextral and circular with the external pattern visible within. The outer lip doubled, with the interior lip simple and continuous while the exterior one is expanded and wavy at the posterior. The umbilicus is widely open and deep with an air tube that is wide, moderately long, and touching the body whorl. The periostracum is thick and the operculum has raised concentric ribs. The color is variable, from whitish to dark brown. The type locality is the Lạc Dương area, Lâm Đồng province. The key diagnostic character is the wavy outer lip at the posterior end. This species was named after Mr. F. Huber of Austria, for his enthusiasm in collecting Vietnam landsnails.

References:

Thach, N.N. & F.Huber 2014. A new *Amphidromus* (Gastropoda: Camaenidae) from Vietnam. *Basteria*, The Netherlands , 78(1-3): 35-37.

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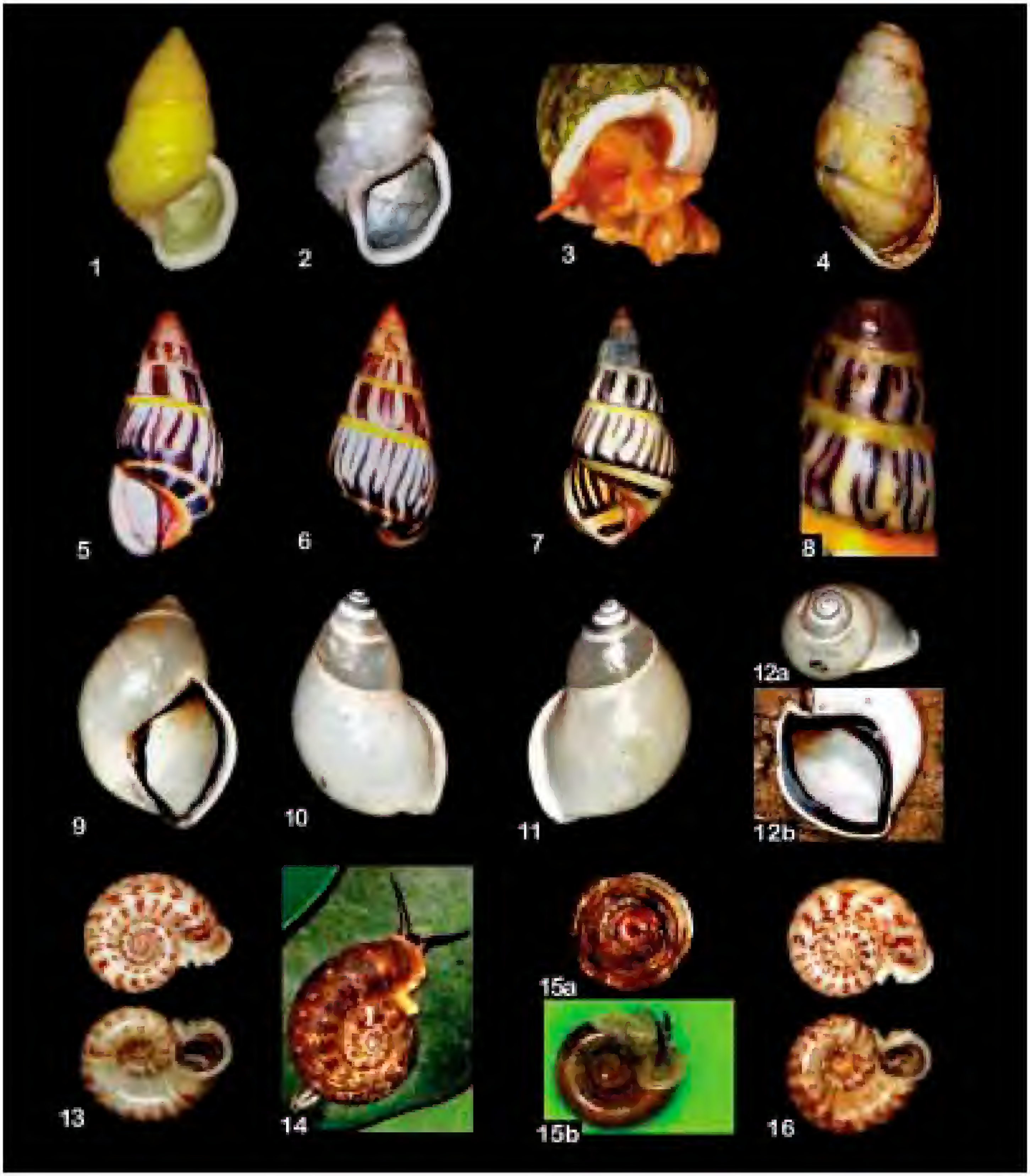

1. - 4. ***Amphidromus naggsi*** - **1.** 69.6mm, **2.** holotype, 61.4mm, **3.** live animal, **4.** paratype 4, 62.9mm. **5. - 8.** ***Amphidromus huberi*** - **5. & 6.** holotype 33.9mm, **7.** paratype 1, 33.8mm, **8.** paratype 2, 35.7mm. **9. - 12.** ***Amphidromus thachi*** - **9. - 11.** paratype 2, 29.6mm, **10.** paratype 1, 33.3mm, **12.** apertural and apical views. **13. - 16.** ***Pterocyclos huberi*** - **13.** holotype, 17.3mm, **14.** live animal, **15.** operculum (a) and live animal (b), **16.** paratype 1, 17.4mm.

SCUM XIX: Southern California Unified Malacologists

Lindsey T. Groves

Front row: (l to r) Jere Lipps, Carol Stadum, Shawn Wiedrick, Jenny McCarthy, Natalie Yedinak, Jann Vendetti, Sabrina Medrano, Haleah Golestani, Sarah Carey, Kathy Kalohi, Pat LaFollette, Carole Hertz, Terry Rutkas, Maggie Carrino, Scott Rugh, Don Cadien.

2nd row: (l to r) Eric Madrid, Austin Hendy, Clara Jo King, Erika Espinoza, Craig Hoover, Jules Hertz, Emile Fiesler, Hans Bertsch, Keith Thompson, Bob Abela, Britt Latham.

3rd row: (l to r) Doug Eernisse, Chuck Powell, Phil Liff-Grieff, Pat Don Vito.

Top row: (l to r): Ángel Valdés, Eric Breslau, Kelvin Barwick, Tony Phillips, George Kennedy, Lindsey Groves.

Present at SCUM XIX but not in photo: David Berschauer, Ian Christian Scher, Dave Goodward, and Diana Weir.

The 19th annual gathering of **S**outhern **C**alifornia **U**nified **M**alacologists (SCUM) was held at the Laguna Hills Community Center, Laguna Hills, CA, and was attended by forty professional, amateur, and student malacologists and paleontologists on Saturday, 24 January 2015. This informal group continues to meet on an annual basis to facilitate contact and keep attendees informed of research activities and opportunities. As always, in keeping these gatherings informal, there are no dues, officers, or publications. The continuing success of informal groups such as SCUM, Mid-Atlantic Malacologists (MAM), Ohio Valley Unified Malacologists (OVUM), and FUM (Florida Unified Malacologists), will hopefully encourage more regional groups of malacologists and paleontologists to meet in a likewise manner.

SCUM XIX host Carol Stadum greeted pre-meeting attendees with a variety of pastries, fresh fruit, coffee, tea, and juices. Around 9:00 AM Carol welcomed the group and made several announcements. She then introduced Lindsey Groves to make some major announcements with respect to the Malacology and Invertebrate Paleontology Sections of MHMLAC. He introduced new curator Dr. Jann Vendetti who was hired as Twila Bratcher Endowed Chair in Malacological Research for two years and Dr. Austin Hendy, the new Collection Manager of Invertebrate Paleontology. It was also announced that SCUM member Richard Squires retired from teaching duties at California State University, Northridge, after 40 years and was awarded the prestigious 2014 Gilbert N. Harris Award from Paleontological Research Institution for excellence in paleontological research.

In continuing SCUM tradition, all present were given the opportunity to introduce themselves and give a short update about current mollusk related activities. Most presentations were informal but ten attendees gave more detailed talks. Nine students, all mentored by Ángel Valdés, from California State Polytechnic University, Pomona, attended SCUM XIX and four reported on their research. Students Haleah Golestani (*Aplysia*), Sabrina Medrano (Saccoglossans), Jenny McCarthy (Juliidae), Sarah Carey (*Navanax*), and Craig Hoover (*Doriopsilla*) presented informative talks. Other talks of particular interest included a presentation by biological consultant Emile Fiesler (BioVeda) who summarized the biogeography of the introduced freshwater gastropod *Melanoides tuberculata* (Müller, 1774) from its introduction into southern California in 1972 in Riverside County and since collected in Laguna Niguel, Orange County, Palos Verdes Peninsula, and Lincoln Park, both Los Angeles County. This species, which outcompetes native species for food and space, is native to North Africa and Southeast Asia. Shawn Wiedrick summarized his molluscan endeavors since SCUM XVIII, including his current research on the gastropod muricid genus *Ocinebrina* in California and micro-turrid genera and species of the tropical Indo-Pacific. New NHMLAC Invertebrate Paleontology collection manager Austin Hendy presented a short talk on the recent changes in the section since Mary Stecheson's retirement and his plans for the future of LACMIP. Jere Lipps (Cooper Center director) made an impressive presentation about the progress made to improve the John D. Cooper Archaeological and Paleontological Center as the premier repository for specimens and artifacts in Orange County. Once again Doug Eernisse (CSUF) reported on the myriad of projects he has in progress singly and with co-authors both professional and students.

SCUM XX will be hosted by Maggie Carinno at the Laguna Hills Community Center, Laguna Hills, CA, once again, in January of 2016.

SCUM XIX participants and their respective interests and/or activities:

Bob Abela (San Diego Shell Club): Attended with Carole and Jules Hertz.

Kelvin Barwick (Orange Co. Sanitation Dist.): Conducts outfall monitoring projects from offshore Orange County, CA, particular interests in mollusks and polychaetes.

Dave Berschauer (San Diego Shell Club): Shell collector and current editor of the San Diego Shell Club publication, *The Festivus*.

Hans Bertsch (San Diego Shell Club): Continues with research on Hawaiian, Californian, and Sea of Cortez nudibranchs.

Eric Breslau (Cal. Poly. Pomona): Undergrad researching the genus *Melanochlamys*.

Don Cadien (LA Co. Sanitation Dist.): Continues with outfall monitoring projects off southern California with a special interest in crustaceans and solenogasters.

Sarah Cary (Cal. Poly., Pomona): Grad student researching genetic similarities is species of *Navanax* via mitochondrial and molecular gene sequencing.

Ian Christian Scher: No report, attended with Sarah Cary.

Maggie Carrino (City of Laguna Hills): Current city of Laguna Hills paleontologist and host of SCUMM XX in January of 2016.

Pat Don Vito (San Diego Nat. Hist. Mus.): Volunteer at the museum in the Invertebrate Paleontology section.

Doug Eernisse (Calif. St. Univ., Fullerton): Currently has a myriad of chiton research projects including *Cyanoplax* as a free spawner vs. a brooder, *Chaetopleura* and first report of the genus as a brooder, *Chitonina* and mitochondrial DNA sequences, chitons and limpets from Japanese docks set adrift by tsunamis in 2011, and a new species of *Ferreirella* from off Big Sur, CA. He also co-led a chiton workshop in Coquimbo, Chile, with Russian colleague Boris Sirenko. All of this in addition to teaching duties.

Erika Espinoza (Cal. Poly., Pomona): Grad student working on estimates of species diversity.

Emile Fiesler (Bio Veyda): Conducts biological surveys with an emphasis on mollusks and arthropods. Presentation on the introduced freshwater gastropod species *Melanoides tuberculata* in southern California.

Haleah Golestani (Cal. Poly., Pomona): Undergrad researching several species of *Aplysia* using mitochondrial and molecular gene sequencing.

Dave Goodward (Grand Terrace, CA): Has research interest in the landsnail genus *Helminthoglypta* with Lance Gilbertson.

Lindsey Groves (Nat. Hist. Mus., L.A. Co.): Collection manager at NHMLAC. Research interest in fossil and Recent cypraeoideans and their biogeography and biostratigraphy. Currently working with Daniel Muhs (USGS Denver) on Pleistocene marine terrace chronology and sea-level changes on the California Channel Islands.

Austin Hendy (Nat. Hist. Mus., LA Co.): New Collection Manager of Invertebrate Paleontology at NHMLAC with an interest in fossil mollusks from Panama and northern South America and their taxonomy and biogeography.

Carole Hertz (San Diego Nat. Hist. Mus.): Volunteer at the museum in the Invertebrate Section. Long-time editor of the San Diego Shell Club publication *The Festivus* … now retired.

Jules Hertz (San Diego Shell Club): Retired business manager of *The Festivus*.

Craig Hoover (Cal. Poly., Pomona): Researching pseudocryptic diversity in *Doriopsilla* species complex in California and Baja California, Mexico.

Kathy Kalohi (Pac. Conch. Club): Continues as Pacific Conchological Club treasurer, shell and fossil collector, and diver.

George Kennedy (Brain F. Smith & Associates): Conducts environmental monitoring in San Diego County, particularly Pleistocene and Eocene aged strata. Announced the passing of Charter SCUM member Terry Arnold and that his library would be distributed to several institutions in California and Mexico.

Clara Jo King (Cal. Poly., Pomona): Grad student researching *Phidiana hiltoni*.

Pat LaFollette (Nat. Hist. Mus., L.A. Co.): Continues with rearrangement of the Pyramidellidae in the NHMLAC malacology collection and accumulation of on-line literature concerning the pyrams. Also continues work with micromollusks from the Miocene/Pliocene Imperial Formation in the Whitewater Canyon area of Riverside County.

Brit Latham (Cal. St., San Bernardino): Interest in Recent and fossil gastropods.

Phil Liff-Grieff (Pac. Conch. Club): Collector of landsnails with an interest in island biogeography. Has a recent interest in African terrestrial species following a trip to Zanzibar and Rwanda.

Jere Lipps (Cooper Center): Director of the Cooper Center. Presented many of the projects and objectives of the center with regard to Orange County fossils and anthropological artifacts.

Eric Madrid (Cal. Poly., Pomona): Attended with Edgar Breslau.

Jenny McCarthy (Cal. Poly., Pomona): Graduate student, researching the saccoglossan family Juliidae.

Sabrina Medrano (Cal. Poly., Pomona): Graduate student, researching shelled saccoglossans Oxynoidae and non-shelled saccoglossans Pleurobranchidae.

Tony Phillips (City of LA): Retired from the City of Los Angeles Sanitation District.

Chuck Powell, II (U.S. Geological Survey): Geologist with the USGS with an interest in invertebrate paleontology (especially Neogene mollusks) from Alaska to the Gulf of California.

Scott Rugh (Temecula, CA): Currently preparing a manuscript on the paleontology of the late Pliocene San Diego Formation.

Terry Rutkas (Pacific Conch. Club): Has general interest in all groups of shells. Researches uses of mollusks in human culture, particularly in Polynesia.

Carol Stadum (Carlsbad, CA): Continues to prepare manuscript on “Fossil Reef” outcrops in the Laguna Hills area.

Keith Thompson (Beaumont, CA): Retired with a research interest in freshwater gastropods.

Ángel Valdés (Cal. Poly., Pomona): Teaches Evolutionary Biology and continues phylogenetic research on opisthobranch gastropods of the Caribbean and Panamic provinces. Current American Malacological Society president preparing for next meeting in Ensenada, Baja California, Mexico.

Jann Vendetti (Nat. Hist. Mus., LA Co.): Twila Bratcher Chair in Malacological Research at NHMLAC. Researching saccoglossans and Recent and fossil buccinid gastropods.

Diana Weir (Mission Viejo, CA): Former paleo monitor in Orange County and long-time friend of SCUM XIX host Carol Stadum.

Shawn Wiedrick (Nat. Hist. Mus., LA Co.): Current President of the PCC and interested in all areas of shell collecting. Published two papers in the new *Festivus* on Indo-Pacific micro turrids. Shawn is also considering returning to school and attending California State University, Fullerton, to study ocinebrine gastropods for a Master’s degree.

Natalie Yedinak (Cal. Poly., Pomona): New undergrad currently assisting other grad students.

Lindsey T. Groves
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Malacology Section
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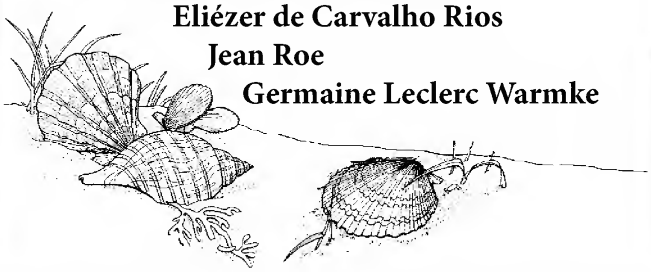
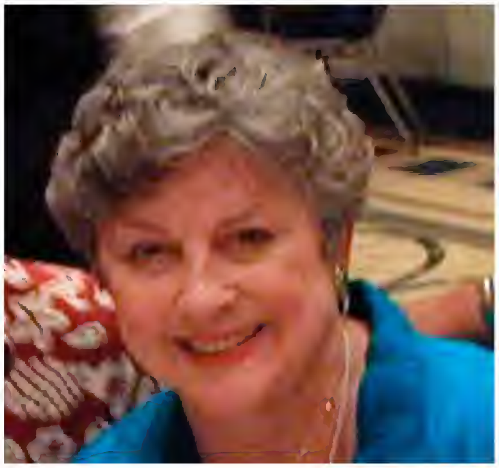
Los Angeles, CA 90007
lgroves@nhm.org

In memoriam:

Salle Snyder Crittenden
Eliézer de Carvalho Rios
Jean Roe
Germaine Leclerc Warmke



Salle Snyder Crittenden (right), with son David Synder (middle) and Tom Rice (left) at the 40th anniversary celebration of the Of Sea and Shore Museum in Port Gamble, Washington. Salle was 82 and a resident of Alemeda, California. She was a long time Californian, growing up in Piedmont and San Leando, and graduating from the University of the Pacific (then the College of the Pacific) with a degree in fine arts. She was married to John Crittenden who founded the *Alemeda Journal* in 1987. Salle worked at the California Academy of Sciences (helping manage the museum store) and at the Harbor Bay Club on Bay Farm Island. She enjoyed needlepoint, art museums, and shells. Photograph courtesy of Tom Rice.



Jean Roe passed away on May 2, 2015. She was active in COA for many years and served as recording secretary for a few years. She and her husband Charlie helped to host the 1994 convention in Corpus Christi, TX. They were both active in their local shell club, the Coastal Bend Shell Club, until recent years when age and health slowed them down. Through the years they traveled the world collecting shells. Every year they spent most of May and June on Sanibel and Captiva. In March they celebrated their 60th wedding anniversary. She will be missed. Charlie thanks the many collectors for their outpourings of sympathy.

Lucy Clampit

Eliézer de Carvalho Rios (third from the left). From left to right are: Mrs Maria Helena Tierney, Marcus Coltro, Prof. Rios, R. Tucker Abbott, Ricardo and Gracy Guerrini, Jose Coltro, and Peter Dance. Prof. Rios passed away on March 23, 2015, leaving four adult children. He represented to Brazilian collectors what Tucker Abbott was to Americans, inspiring us with his books and continuous participation in conventions and shell meetings.

He was born on November 9, 1921, in Rio Grande city, Rio Grande do Sul State, Brazil, and graduated with a degree in Chemistry from the Universidade Federal do Rio Grande do Sul (UFRGS) in 1944. He taught classes at the university for 25 years.

In 1953 he founded the Oceanographic Museum in Rio Grande, where he was director for more than 50 years and where he gathered one of the most important collections in South America. He wrote 5 books, in 1970, 1975, 1985, 1994, and the last one in 2009, for which he asked help from friends to revise and prepare it due to his advanced age - but at the end he wanted to finalize it himself since he thought it was taking too long.

My very first shell book was his 1970 edition of Coastal Brazilian Seashells. I've used it so much that all the pages are falling out. Back then I could never imagine that one day I would be honored by participating with information and material for his books.

I meet him in 1983 at a convention of Sociedade Brasileira de Malacologia (SBMa) and after that we met several times in São Paulo and at COA conventions, the times Jose and I most enjoy since we get to spend a whole week together. He was very nice to everyone, always in a good mood, and making us all feel like his children. His sense of humor was fantastic. I remember when he had a pacemaker implanted. He was proudly showing it to everybody at the convention!

But he could be very serious and persuasive on important matters related to his museum. He managed to get funds from important companies in Brazil to improve the museum's collection, to pay for equipment, and for his trips to conventions where he acquired shells and books. He always appreciated the efforts made by amateurs to supply science with specimens and information. He was aware of our important part in all this and was one of the few professionals that thought like that in earlier days when collectors were not taken seriously by most scientists in Brazil. Luckily it has changed, thanks in part to his efforts.

Several important biologists and collectors followed his love for shells: José Henrique Leal, Luiz Ricardo de Simone, Iara Swoboda, Lauro Barcellos, Paula Spotorno de Oliveira, Paulo Marcio Costa, Carlo Magenta da Cunha, Paulino Soares, Ricardo Absalão, Alexandre Pimenta, Franklin Santos, José Carlos Tarasconi, Renata Gomes, Fabrizio Scarabino, Guido Pastorino, Jesús S. Troncoso, and many others. Of course Jose and I are proud to be on this extensive list.

He worked almost until the end, at least a bit every week. His staff and friends always gave him the care and love that he deserved.

Marcus Coltro

Germaine Leclerc Warmke passed away on the 7th of August 2014, she was 94. Germaine lived in Gainesville and St. Augustine, Florida. She received her BA in biology from the University of Maine and her MA in genetics from the University of Rochester. Before moving to Florida, she and her husband, Harry, lived in Puerto Rico for 19 years where she taught genetics and wrote *Caribbean Seashells*. After her husband's death she moved from Gainsville to St. Augustine where she wrote *Exploring the Seashore* and *No Brief Candle* (her memoir).

The colors of fossil cones

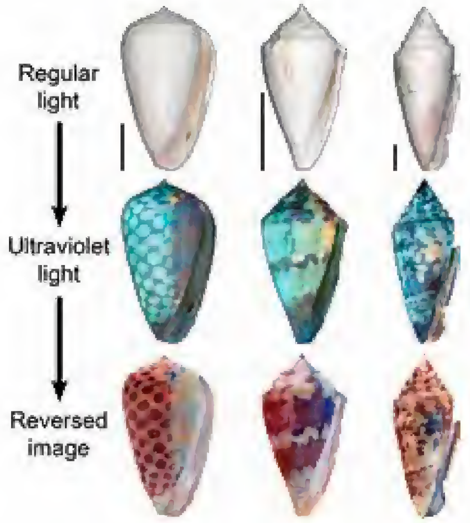


Illustration from the article, on line at: http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0120924

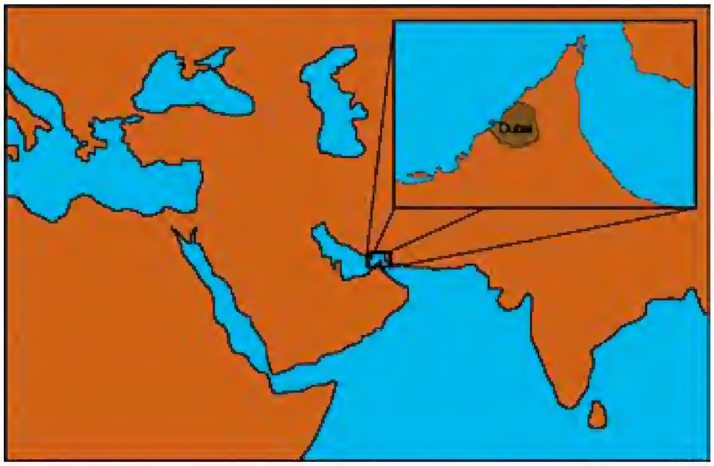
In a recent study, Jonathan R. Hendricks examined 28 species of fossil cone snails from Neogene deposits in the Dominican Republic. For those who think the taxonomy of Recent Conidae is confusing, consider that "...over 1,000 [cone] species have been described from the fossil record." Hendricks further states that many of these are likely synonymous and that the problem arises due to the fossil cone shell's conservative morphology. Without the color and pattern found on Recent cone shells, researchers of fossil cone shells are left with white shells all shaped alike. Hendricks notes that in the 1960s, Axel Olsson discovered that patterns, if not coloration, could sometimes become visible on fossil shells illuminated with ultraviolet (UV) light. Hendricks took this a step further and digitally manipulated the UV image (reversing the colors) to show a closer approximation of the shell's living color pattern (see image above). In so doing he was able to discover 13 new fossil cone species.

That UV light can reveal the color pattern on some fossil shells is fairly widely known. What is not known is exactly how this occurs. What are the specific mechanics that cause certain pigments or chemicals to fluoresce? We don't really know. In fact, there is still much unknown about the chemistry of shell pigment. For fossil shells, though, it has now been shown that some process, like oxidation, either through exposure to the sun or soaking in a bleach solution, enhances the UV fluorescent response.

Hendricks, J.R. 2015. "Glowing Seashells: Diversity of Fossilized Coloration Patterns on Coral Reef-Associated Cone Snail (Gastropoda: Conidae) Shells from the Neogene of the Dominican Republic." PLoS ONE 10(4): e0120924. doi:10.1371/journal.pone.0120924

Dubai mollusks and pearls

Kristina Joyce



Mention Dubai on the Arabian Gulf (known as the Persian Gulf by non-Arabs) and most people envision wealth and an ultra-modern United Arab Emirates city. Dubai, however, was an ancient port of trade in the area known as the Creek where the sea cuts into the land. Classic seaworthy vessels sailed with goods that eventually ended up in faraway places such as India and eventually China.

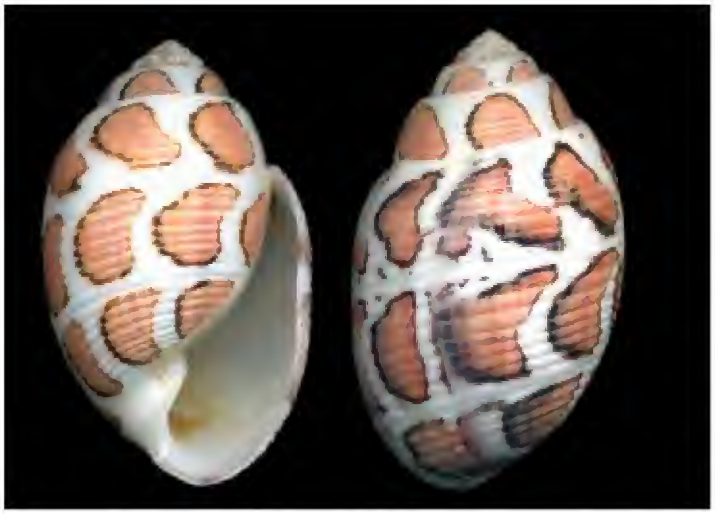
Dubai is the capital of the Dubai state, called an Emirate, of which there are seven in the United Arab Emirates (an independent nation at the tip of the Saudi Arabian peninsula). Dubai city was an important refuge from the desert heat for roaming Bedouin tribes. Some sailed to Dubai oyster beds that gave up such beautiful and plentiful pearls that even Queen Elizabeth I wore ropes of them in many of her formal portraits. When men free-dove for the *Pinctada margaritifera* (Linnaeus, 1758) oysters, they protected themselves with nose clips, white cotton suits on their bodies against jellyfish, and leather on their hands for scraping up the shells. A basket hung on a cord around the diver's neck for the oysters and a rope with a rock tied to it was for descending and for being pulled back to the surface. Oysters were opened on the desk in the presence of all and any pearls found went to the good of the entire crew. A poor haul meant that the divers would be in debt against the voyage advance. Even one great pearl would benefit all regardless of who captured the oyster. (See the photographs from the Dubai Museum and the Sheikh Rashid House Museum.) This profitable venture continued in Dubai until 1930 when it ceased because of the Japanese culturing of pearls. Many of the sailing vessels survived for local use and the tourist trade.

The author holding a fresh tuna in the open-air fish market in Dubai Creek.

Some of the market fish and mollusks.

A view of "The Creek," Dubai.

The covered open-air fish market in the Dubai Creek area is very large and vendors offer a vast array of sea produce, including many mollusks. Because Muslims pray five times each day (a practice called "salat"), fresh catch is sold early and in the later afternoon. The market is not air-conditioned, but it is an excellent place to buy mollusks, especially edible bivalves and gastropods. To window shop an incredible range of pearls, one may walk or ride an abra (ancient type of taxi boat) for 1 dirham (about a third of a dollar) to the nearby Gold Souk. Local antique dealers do not seem to carry the original Dubai pearls and neither do the



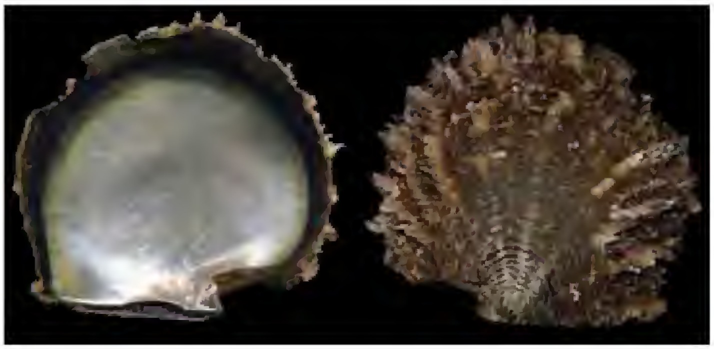
***Acteon eloiseae* Abbott, 1973, 29mm, from neighboring Oman is named after Eloise Bosch.**

The aquarium located inside the Atlantis Hotel.

modern jewelers, but it is possible to bargain for a beautiful pearl set in gold by offering half of the asking price. This is a skill practiced aggressively by the locals and involves some of the best priced jewelry in the world.

Swimming, lounging under an umbrella, and shelling at the beach of the Jumeirah Beach Hotel are all pleasant early or late on a summer day, despite the dangerous sun. December weather is entirely tropical. In June small mollusks did wash up on the powdery white sand from the aquamarine water. On the beach there was even a fragment of a pelagic cephalopod cuttlefish's inner shell. Nearby is the famous Hotel Burj Al Arab, which is modeled on one of the ancient "dhow" sailing vessels. The Atlantis Hotel some distance away is at the base of the Palm Islands. These islands are all manmade from dredged sand deposited with the help of geo-positioning devices.

Journeying west by car on the excellent highways to the neighboring Emirate of Fujairah, a person may see small mollusks on that other shore. Oil is shipped from this coast. The country of Oman is adjacent, where Donald and Eloise Bosch researched Mollusca for their book, *Seashells of Southern Arabia*. *Acteon eloiseae* Abbott, 1973, is a gorgeous little shell named for Mrs. Bosch.



***Pinctada margaritifera* (L., 1758), 125mm, an Indo-Pacific invasive species and a source of pearls.**

Palm Island as seen from the International Space Station. Photo by Cmdr. Leroy Chiao. Wikipedia.com

Another view of Palm Island. Construction involved the use of more than 325 million tons of sand.

Although summer is the most cost effective time to travel to the United Arab Emirates, the heat and humidity are intense. There is a direct 13 hr. flight on Emirates Airlines from Boston to Dubai and prices are generally 50-75% lower in June-August for flights and all accommodations. There are many wonderful aquariums and museums throughout Dubai's comfortably air-conditioned hotels and malls. Look for more details in *Rough Guide* and *Eyewitness Travel* books. Dubai is indeed a wonderful place to visit for an unusual molluscan adventure and all tourists are welcome.

Kristina Joyce
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THE 35TH ANNUAL MARCO ISLAND SHELL SHOW

The 35th annual Marco Island Shell Show was held March 12-14, 2015, in the Disseler Hall at the United Church of Marco Island. The members of the Marco Island Shell Club would like to thank everyone who supported our 35th annual Shell Show by: attending the show, making a donation, entering a scientific or artistic exhibit, making a purchase in the gift shop, buying raffle tickets, participating in the "Hunt for an Anomaly" contest, or sponsoring an award or trophy.

Judges for the 2015 show were: SCIENTIFIC DIVISION: Dr. José H. Leal, a Science Director and Curator from Sanibel, FL. and Dr. Gary Schmelz, a Marine Biologist and Paleontologist from Naples, FL.; ARTISTIC DIVISION: Phyllis Gray, an experienced Shell Show exhibitor and judge from Orlando, FL. and Bill Jordan, a first time judge from Sanibel, FL.

The COA Award went to Bob and Alice Pace for a 10 foot exhibit of "Uncommon to Rare Florida and Caribbean Marine Muricids" The People's Choice Awards went to Georgia Lohmeyer in the artistic division and Marge Tunnell in the scientific division.

Winners in the scientific category:

Conchologist of America (COA) - Uncommon to Rare Florida and Caribbean Marine Muricids - Robert and Alice Pace.

Du Pont - Family Turbinidae Rafinesque - Gene Everson.

Board of Directors - Best World-Wide Single Shell - Columbariidae - Gene Everson.

Dr. William Reid Plaque - Helmets and Bonnets of the World - Bob and Pat Linn.

Best Novice Scientific Trophy - Shells of Panama - Marge Seeger.

Best Miniature Shell Trophy - *Typhis* (*Siphonocheles*) *tityrus* (Bayer, 1971)- Robert and Alice Pace.

Outstanding Self-Collected Marco Island Shells - *Oliva sayana* Ravenel, 1834 - Golden Olives - Becky Miller.

Florida Gulf Coast University - Most Outstanding Self-Collected Marco Island Shell - World Record Size - Muricidae: *Eupleura sulcidentata* Dall, 1890 (27.7 mm) - Cathy McNeilly.

Florida Gulf Coast University Natural History Photographic Award - Olive Tracks - Pat Wood.

Friends of Rookery Bay: Best Self-Collected Single Shell - *Chircoreos florifer* (Reeve, 1846) - Robert and Alice Pace.

Judges Special Merit - Range of *Scaphella contoyensis* Emerson & W.E. Old Jr., 1979 - Phil Miller.

Judges Special Merit - Genus *Provocator* World-Wide - Greg Curry.

Winners in the artistic category:

Best Artistic Exhibit in the Student Class - Novelties - Riley Morris.

Best Artistic Exhibit in the Junior Class - Single Sailor Valentine - Julia Wilson.

2015 Shell Art Workshop Tables: Top Artistic Novice Trophy - Linda Kropp.

Iberia Bank: Best Exhibit in the Hobbyist Class - Bobbie Muzichuk.

The Mary J. Ciaramello Trophy - Best Single Flower or Single Stem of Blossoms - Nancy Maney-Meer.

The Best Non-Floral Trophy - Ellen Dutcher.

CJs on the Bay: Professional Floral Trophy - Judy Daye.

The Shell Show Committee - Best Exhibit Non-Floral - Charles Barr.

Best Professional Single Sailor's Valentine - Constance Marshall Miller.

The Mary C. and John B. Maerker Plaque: Best exhibit in Novice /Hobbyist Categories to an Active Member - Bobbie Muzichuk.

Judges Merit - Georgia Lohmeyer, Charles Barr, and Nancy Maney-Meer.

Alice and Bob Pace with their COA Award for "Uncommon to Rare Florida and Caribbean Marine Muricids." Their display included uncommon to rare species, some of world record size, and some paratypes.

What do we learn from collections? The Shell Museum perspective

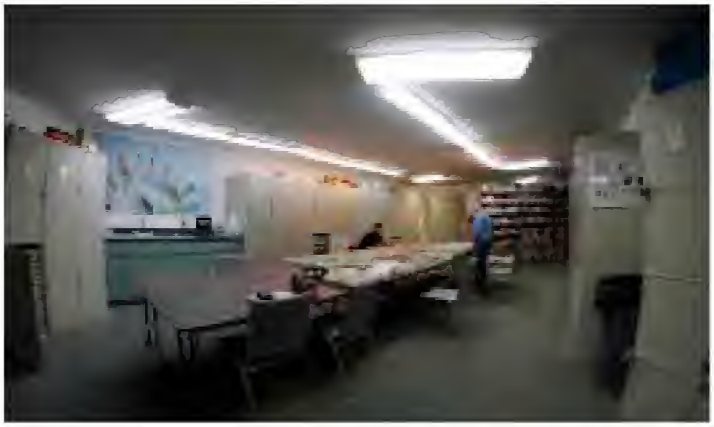
Text and photos by José H. Leal, Ph.D., Science Director and Curator, The Bailey-Matthews National Shell Museum

The publisher of this beautiful magazine, Conchologists of America (COA), is undoubtedly the largest assemblage of shell enthusiasts in the world, with its membership comprised mostly of collectors. Chances are, if you received this magazine in the mail, you like and collect shells. We humans have the desire to collect. Our inquisitive nature compels us to accumulate natural objects. The resulting assemblages are informative and have the potential to enhance knowledge about the group of things collected, no matter their kind: meteorites, mushrooms, bird eggs, insects, bones, or shells, to name just a few. From a conceptual standpoint, the large institutional collections (museums, universities, etc.) often mentioned in the pages of this magazine are intrinsically extensions of your private, enthusiast's collection.

Much of what we know about the natural world we owe to museum collections. Natural history collections are "libraries" of the natural world and, as such, are vital to our understanding of nature and our planet. Historically, natural history collections became firmly established as an outcome of the cycle of European exploration voyages that peaked between the 16th and 18th centuries. The so-called "curiosity cabinets" of natural objects, animals, and plants accrued by European voyagers and nobility as a result of world exploration (and annexation) morphed into the official collections of "royal," and later, "national" natural history museums.

Current scientific research on animals and plants relies heavily on natural history collections. Collections provide baseline data for animal and plant inventories and geographical surveys; the resulting knowledge of distributions (or *geographic ranges*) of different species is instrumental in the study of local extinctions (known as *extirpations*) caused by environmental changes. For example, more local species of plants and animals are likely to be found in the collections of the Bishop Museum (Honolulu) than living in the Hawaiian Islands today. A study of small mammals collected at Yosemite National Park in the early 1900s and deposited at the Museum of Vertebrate Zoology at the University of California, Berkeley, revealed that many of these species now live at higher altitude in that area, a shift most likely induced by global climate change (warmer climate allowing the species to "move upward" the mountain ranges). At The Bailey-Matthews National Shell Museum on Sanibel Island, Florida, the Sanibel-Captiva collection includes a number of species that were abundantly collected a few decades ago but are not so common nowadays.

Every shell in a collection is a potential environmental data recorder. Shells grow by *accretion* (gradual accumulation along an edge) of calcium carbonate: the shell built by the young animal is retained throughout the mollusk's life. Minerals present in the water at different times during shell formation are retained in their original form, and this may provide a record of the environmental conditions (such as salinity and temperature) at the time the shell was made. Bivalve samples from the Shell Museum collection amassed on Sanibel in the 1970s have been used in this type of study.

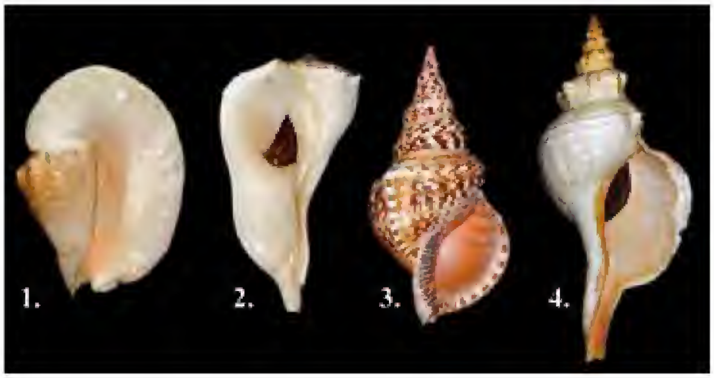


View of the collection work area at the Shell Museum, with volunteer Curatorial Assistants Linda Annesley and Tom Risher (background).

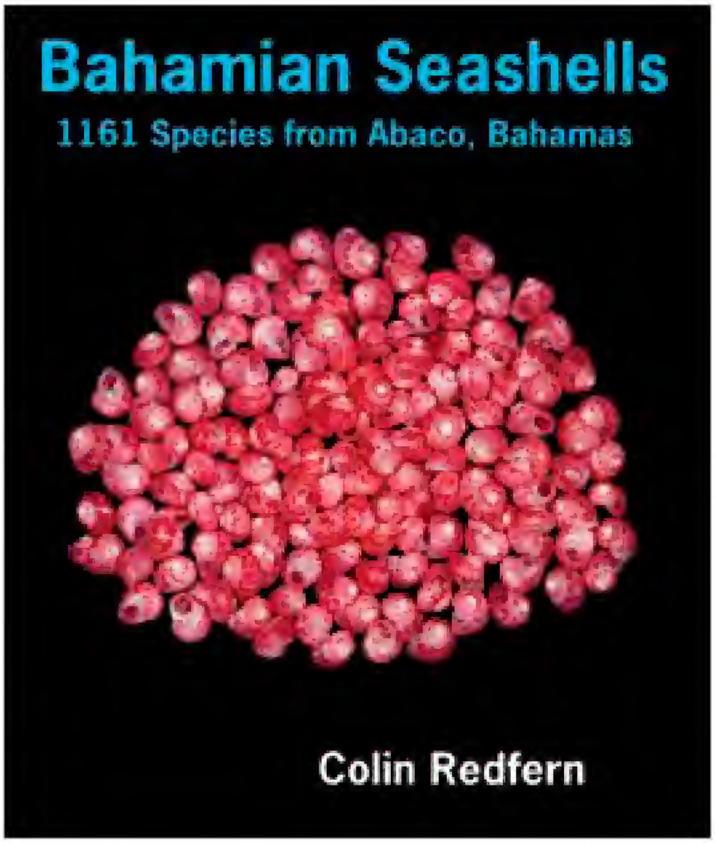
The science of systematics, or the study of the evolutionary relationships of animals, plants, and other living things, would not exist without collections. Scientific collections provide the anatomical and genetic data needed for contemporary phylogenetic studies (the studies of the degrees to which different groups of organisms are related to each other). Research on the evolutionary relationships of animals, plants, and other living things would not exist without collections. Other than sampling from alcohol-preserved animal tissues, modern techniques allow for the extraction of DNA material from dry tissue, including those sometimes found inside old shells. There are many other cases illustrating the value of natural history collections and what can be learned from them, but I hope that at this point I have convinced you of the notion of collections as "snapshots" or "photo albums" of nature and biodiversity.

The collection at the Shell Museum consists of a combination of gifts of private and institutional collections. Private collections may include self-collected shells, shells acquired from dealers or through exchange with other collectors, or any combination of these. The Colin Redfern Collection of Bahamian seashells, donated in 2014 to the Shell Museum, is an excellent example of a collection of self-collected specimens. The Redfern Collection, exceed-

Deep-sea mollusks from the Shell Museum collection.



Four world record-size shells from the Shell Museum collection: From left: *Lobatus goliath* (Schröter, 1805) (380 mm), *Busycon sinistrum* Hollister, 1958 (402 mm); *Charonia variegata* (Lamarck, 1816) (387 mm); and *Triplofusus giganteus* (Kiener, 1840) (606 mm).



The mollusks illustrated and discussed in Colin Redfern's "Bahamian Seashells" are now deposited in the Shell Museum collection.

ing 10,000 lots, includes the material illustrated in his superb "Bahamian Seashells" books. During the its initial years, the Shell Museum received gifts from the National Museum of Natural History (Smithsonian Institution, Washington, DC), and the American Museum of Natural History (New York City). Since the acquisition of those "seed" collections, the Shell Museum has become a magnet for donations of collections of all sizes, currently reaching an estimated total of 120,000 lots. The collection is managed through a state-of-the-art digital catalogue programmed in-house by volunteer Richard Willis, and collection holdings are posted online via the Shell Museum web site.

In 2011, to help expedite our cataloging efforts, the Shell Museum prepared a proposal requesting funds from the Institute of Museum and Library Services (IMLS, a federal funding agency) to hire staff solely to perform data entry. Since beginning of funding in September 2012, an additional 38,000 lots were catalogued, and we expect to have catalogued about 20,000 more at the end of the grant period in late 2015. The "well-oiled machine" that includes processing of collection lots and data entry, consists of a group of volunteer curatorial assistants led by Sanibel's own Tom Risher, working in tandem with part-time collection associates Kim Trebatoski and Heather Williams (whose salaries are funded by the IMLS grant).

In addition to the regular collection, which includes marine, terrestrial, and freshwater mollusks, the Shell Museum also holds a small collection of type specimens (the material examined by the species author(s) and referred to in the original description). The collection is also the source of materials the Shell Museum exhibits.

Next time you wonder about a museum collection, please remember that it is not just a place where thousands of shells are "stored," but a dynamic source of information for many branches of natural sciences and human endeavors, as distinctive from simple shell storage as a busy library is from a book warehouse.

Collection records are stored in digital databases. Search the Shell Museum database online at http://shellmuseum.org/collection.cfm.

[This article is a modified version of a similar piece published in the Shell Museum News, October 2014.]

COA annual convention: July 14 to 18, 2015

Bonaventure Resort & Spa in Weston FL

Convention Trips, Tours & Dinner Cruise July 12-13

The Conchologists Of America annual convention is July 14-18, 2013, in Weston, Florida, with a terrific lineup of field trips on July 12-13. There are still spaces available on the field trips for the COA convention. Please remember, YOU DON'T HAVE TO BE A MEMBER OF COA to register for the convention or take advantage of the field trips; however, you do have to register to go on a field trip. Spouses and significant others are invited to attend the exciting Jungle Queen dinner cruise. Confirmation emails have been sent to registrants. Please check your spam mail and contact us if your confirmation email was not received.

There are a wide variety of interesting programs presented by many distinguished speakers (programs listed below), plus other exciting activities and old friendships to rekindle. The hotel is offering varied lunchtime and dinner options, including a $15 lunch buffet, held at their main dining room, and poolside dining. There are also a number of dining options within a short drive from the hotel. All hotel rooms have a refrigerator except the king size rooms.

Please wear your Everglades/Safari wear to our Welcome Party. Prizes will be awarded for the best, the funniest, and the most original hat. There will be plenty to eat including a couple of adventurous appetizers. And please don't miss the Gala In The Glades Banquet, as well.

There is an excellent selection of over 100 shells and shell-related items in the oral auction. Our six silent auctions will have 300 items each and there will be some great raffle items. The COA Bourse will feature shell dealers from around the world with shells galore!! Bourse dates are Friday, July 17 (1pm-8pm) and Saturday, July 18 (9am-3pm) and is open to the public. **You do not have to be registered at the convention to attend the Bourse and look around or buy!**

For complete convention information and to download a registration form: www.2015COAConvention.com, www.conchologistsofamerica.org, Facebook – 2015 COA Convention.

Please join us for a Gala In The Glades!!

Nancy Galdo (305)-467-4412 and Linda Sunderland
(954) 257-8701, convention co-chairs
PO BOX 19505, Plantation, FL 33318
2015coa@gmail.com

2015 COA Programs:

Robert Carr "Shell tools used by the Paleo Indians of Florida"

Robert Hurst "The sinking of the 1715 Treasure Fleet off the coast of Florida"

John Slapcinsky "How many wolfsnail (*Euglandina rosea*) species are there in Florida and how many were exported in failed biocontrol efforts. Rosy wolfsnail"

Randy Bridges "Cowry selfies: A discussion of photography and cowries"

Dennis Sargent "Worldwide Ranellidae"

Bill Fenzan "The mystery surrounding the disappearing types of cones described during World War II" in the collection of Andre Fenaux"

Phil Fallon "Problems in taxonomy--Examples of frustrations and solutions from personal research"

David Campbell "DNA: Useful but not infallible"

Paul Kanner "California shells and collecting in California waters"

Gary Rosenberg "Finding overlooked and unexpected type specimens in the collections of the Academy of Natural Sciences of Philadelphia"

Ed Petuch "The *Busycon* whelks: Eastern North America's iconic mollusks"

Phillip Gillette "*Aplysia* research at the University of Miami and why it is important to medicine"

Jerry Harasewych "Yo ho ho and a bottle of shells"

Emilio Garcia "Two decades of molluscan discoveries in the Gulf of Mexico on board the R/V "Pelican"

Rich Goldberg "Land Shells of a Lesser Known Ilk"

Gene Coan "Philippi, the least known early malacologist"

Paula Mikkelsen "Understanding Pearls – in Natural History, Human History, and Your Jewel Box."

José Leal "Biomimetics and Mollusks"

Bonaventure Resort poolside at night.

The raffle prizes include two large and really quite spectacular Florida shells.

The *Liguus fasciatus* collection being offered at the 2015 COA oral auction consists of 49 color forms. Many are so-called "topotypes" (T) and were collected in the 1930's and 40's by famous collectors such as Grimshawe, Wright and Jones. The list of forms is:

01. aurantus
02. osmenti T
03. pictus T
04. livingstoni
05. lossmanicus
06. eburneus
07. versicolor T
08. solisoccasus T
09. nancyae
10. wintei
11. fuscoflammellus T
12. walkeri T
13. mosieri T
14. delicatus T
15. vonpaulseni T
16. barbouri T
17. castaneozonatus
18. pseudopictus T
19. capensis T
20. roseatus
21. matecumbensis T
22. marmoratus
23. cingulatus
24. lucidovarius T
25. innominatus T
26. elegans T
27. testudineus
28. dohertyi T
29. graphicus
30. deckerti T
31. vacaensis T
32. ornatus T
33. clenchi
34. nebulosus T
35. elliotensis
36. ligumvitae
37. castaneus
38. lineolatus
39. miamiensis
40. archiejonesi T (very rare)
41. septentrionalis
42. luteus T
43. subcrenatus T
44. dryas
45. floridanus
46. solidulus
47. alternatus T
48. gloriasylvaticus
49. simpsoni

If you have not yet decided whether or not to attend this year's convention, it is still not too late. Go to either of the two web sites mentioned on page 38, print out the forms, and join us.

Vol. 43, No. 3, September 2015
thomas@nerite.com www.conchologistsofamerica.org

American CONCHOLOGIST

Quarterly Journal of the Conchologists of America, Inc.

CONCHOLOGISTS OF AMERICA, INC.

In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors; to the beauty of shells, to their scientific aspects, and to the collecting and preservation of mollusks. This was the start of COA. Our membership includes novices, advanced collectors, scientists, and shell dealers from around the world. In 1995, COA adopted a conservation resolution: Whereas there are an estimated 100,000 species of living mollusks, many of great economic, ecological, and cultural importance to humans and whereas habitat destruction and commercial fisheries have had serious effects on mollusk populations worldwide, and whereas modern conchology continues the tradition of amateur naturalists exploring and documenting the natural world, be it resolved that the Conchologists of America endorses responsible scientific collecting as a means of monitoring the status of mollusk species and populations and promoting informed decision making in regulatory processes intended to safeguard mollusks and their habitats.

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Front Cover: *Nassarius albus* of authors, non (Say, 1826), sensu Kaicher (1982: card 3234). As can be seen by the listed name, this common western Atlantic and Caribbean species comes with a bit of confusion over its name (or present lack thereof). None-the-less, this amazing photograph shows a rare, possibly unique, instance of ovoviviparous birth in a gastropod (eggs hatched within the body, so the young are born alive but without placental attachment, as in certain reptiles, fishes, and oysters). This amazing photograph was taken by Susan Mears.

Back Cover: *Monoplex aquatilis* (Reeve, 1844), in situ from the Red Sea, courtesy of Moti Kovalis. This common species is popular with collectors and is found almost worldwide.

Editor's comments: To begin, the cover photograph by Susan Mears of what is usually (though incorrectly) listed as *Nassarius albus*, was forwarded to me by Dr. Harry Lee (who also noted the important nature of the image and the confusion surrounding the actual identity of the shell). Ovoviviparous birth has seemingly never before been recorded for a gastropod. So this is a rather important first. The back cover photograph of *Monpoplex aquatilis* (was *Cymatium aquatile*) by Moti Kovalis is one I have had on file for a few years. Although it is a common and widespread species, nice specimens (such as this) are certainly welcome additions to any shell collection.

As for inside the covers, we have our usual eclectic mix of conchological material. After getting some COA business out of the way (publishing the slate of nominees for COA elected offices, thank you, Alan Gettleman), we have a nice tribute to perhaps the best known American sheller, R. Tucker Abbott. I believe Regis D'Angiolini presents a well-balanced portrait of our premiere sheller. This is followed by Lori Schroeder who explores the trials and tribulations of keeping small landsnails in the home. Keeping a freshwater snail in an aquarium, no problem – keeping a landsnail in a terrarium, not quite as simple – as she points out. Then sit back and enjoy our travelogue by Amelia Ann Dick, who reports on shelling and shopping in French Polynesia.

We have three separate reports in this issue by recipients of COA grants. Dorottya Angyal et al. hunt for a long-lost landsnail in Albania and Kosovo. Readers will note many parallels between these countries of today and Cuba of the 1930s. Then Ayu Savitri Nurinsiyah takes us to Java to hunt for landsnail species that may now be endangered by cement mining. Finally, we have a rather technical presentation of how some nudibranches collect and use cnidocytes. Nudibranches ingest these specialized cells of their prey and then incorporate them into their own body, forming a defensive system that can discharge venom-filled barbs called nematocysts.

In the middle of these reports are the results of the 2015 Gulf Coast Shell Show and a book review of *Spirals in Time: The Secret Life and Curious Afterlife of Seashells* by Helen Scales. This is a small inexpensive book with more shell facts, stories, trivia, and natural history per page than any other similar endeavour. Most of us share a wonder of shells, Helen Scales has put in print much of why we have this wonder.

We close with a report of the 2015 COA Convention in Florida, by Anne Joffe. As she is the person responsible for COA scheduling and coordination of these events, it is fitting to have her report on this very successful gathering. It was a lot of fun – now plan on Chicago.

Tom Eichhorst

July 20, 2015

Dr. José Leal, President
Conchologists of America
Sanibel, FL

Dear President Leal:

A Nominating Committee consisting of Doris Underwood, Everett Long, and Alan Gettleman was established to report a slate for the elected offices to be voted at the 2016 annual meeting of the Conchologists Of America (COA) convention to be held in Illinois.

The proposed slate of officers is:

President: Harry G. Lee, M.D.

Vice President: Wayne Humbird

Secretary: Phyllis Gray

Treasurer: Steven Coker

Trustee: Everett Long

All candidates agreed to serve for the offices nominated (COA Bylaws Chapter Two, Section C). The candidates for President and Vice-President have served, or are presently serving, on the Board of Directors (COA Bylaws Chapter Two, Section B). This report is submitted more than 30 days prior to the election for the purposes of informing members of the proposed slate (COA Bylaws Chapter Two, Section C).

A subcommittee of the Nominating Committee consisting of Doris Underwood and Alan Gettleman solicited the candidate for Trustee.

The slate reflects individuals who have been involved in the Conchologists of America by serving in offices and/or actively involved in working on working on individual COA conventions. They represent workers actively promoting the goals of the organization.

Thank you.

Sincerely,

Alan Gettleman

Nominating Committee Chair

Cc:

COA Nominating Committee

COA Board of Directors

The ‘popularizer’ of shell collecting:

The Philadelphia Shell Club looks back at the life of R. Tucker Abbott in celebration of our 60th year

Regis D’Angiolini

Tom Grace was a teenager when he discovered the name R. Tucker Abbott. The young collector was seeking information on seashells; Abbott, the author of a number of books on conchology, was the one who delivered. Grace became an avid reader of Abbott’s books, describing them as “the best source of shell information in their day for the amateur collector.”

It wasn’t until years later, at the Sheller Jamboree in Clearwater, FL, that Tom Grace actually met the acclaimed malacologist. Abbott sat down at Tom’s table, asked him how he liked the event, and told him about his Sanibel museum project, for which he was developing exhibits.

“He asked what I liked to collect and then listened to me go off for a while,” Tom recalled. “During the next half-hour, I told him about growing up and diving in California, and how I enjoyed collecting abalone shells and Indian artifacts made of shells. Before getting up to go, he asked if I might have a few shell artifacts I could part with for use in an indigenous peoples display for the museum – that being one of the exhibits he was thinking about.”

After Tom returned home, he sorted through his collection, chose abalone and clam beads from California, and *Mercenaria* clam beads from Pennsylvania, and mailed them to Abbott. “About a year later, after I had completely forgotten about sending this material to Sanibel, I received a small package from Tucker,” Tom said. “Inside was a thank-you note along with a pair of *Gazas*, one was an *G. olivaceus* and the other a *G. superba*. A nice thank-you indeed!”

Tom’s experience is among the many fond memories Philadelphia Shell Club members have of Abbott – one of the most admired conchologists of the 20th century and one of the founding members of the Philadelphia Shell Club, now in its 60th year.

A native of Watertown, MA, Abbott began collecting shells as a youth and went so far as to create his own shell museum in his basement. He later attended Harvard University and developed the journal *Johnsonia*, which focused on western Atlantic mollusks. After college, Abbott entered the military as a U.S. Navy bomber pilot and later became a medical research unit officer. While stationed in Asia during World War II, he studied the freshwater snails of the genus *Oncomelania* in the rice fields of China’s Yangtze River Valley, as well as the parasitic worm they carried that caused the infectious disease schistosomiasis (also known as bilharziasis or ‘snail fever’).

Malacologist R. Tucker Abbott as he appeared in 1971. Photo by Robert Robertson.

After the war, Abbott married fellow malacologist Mary M. Sisler and became assistant curator and then associate curator of the Department of Mollusks at the National Museum of Natural History at the Smithsonian in Washing-

R. Tucker Abbott enjoys the 1957 Philadelphia Shell Club picnic—the club's second—with his wife and children. Photo courtesy of the Academy of Natural Sciences of Drexel University.

ton, D.C. During this time period he earned his master's and Ph.D. from George Washington University. He also wrote the first edition of *American Seashells*, one of over 30 books he authored on malacology. Other books he authored include: *Seashells of the World* (1962), *The Shell* (1972), and *The Kingdom of the Seashell* (1972).

"One thing Tucker was well known for was that he never passed up an opportunity to sign one of his books," said Philadelphia Shell Club member Al Schilling. "I have his signature in *American Seashells*, and he signed my copy of *Compendium of Seashells*, which he coauthored with Peter Dance, as follows: 'Best Wishes from the senior author.' He didn't lack for ego. The standard joke among shell collectors was that if you had one of his books that wasn't signed, it would be worth quite a bit."

An active member of the American Malacological Union (now American Malacological Society) and Conchologists of America, Abbott succeeded Henry A. Pilsbry as chair of the Department of Mollusks at the Academy of Natural Sciences, Philadelphia, in 1954, under the newly created Pilsbry Chair. The two helped found the Philadelphia Shell Club in 1955, an achievement that increased local attention and support for the Academy among shell collectors.

Abbott's efforts at raising awareness for the Academy did not stop there. His shelling expeditions to the Indian and Pacific oceans and other projects added to the Academy's reputation forged under Pilsbry. While at the Academy, Abbott actively edited the journal *The Nautilus*, of which he became editor-in-chief in 1971, and he also began a separate journal, *Indo-Pacific Mollusca*.

In 1969, Abbott left the Academy to accept the DuPont Chair of Malacology at the Delaware Museum of Natural History. There, he became assistant director and head of the Department of Mollusks. Abbott was succeeded at the Academy by Robert Robertson, an expert on Bahamian mollusks and molluscan anatomy. Abbott had hired Robertson as assistant curator at the Academy in 1960.

"Tucker was an extraordinarily gifted popularizer

Seashells of the Northern Hemisphere
R. Tucker Abbott
Compendium of Seashells
R. Tucker Abbott & S. Peter Dance
Seashells of the World

Pictured are (clockwise from top left), some of the books written by R. Tucker Abbott: *Seashells of the Northern Hemisphere* (first edition, 1991), *Compendium of Seashells* (coauthored with S. Peter Dance, later edition, original published in 1982), and *Seashells of the World* (2002 edition). Photo by author.

R. Tucker Abbott displays the love he had for his lifelong passion with a shell shirt in an undated photo. Photo by Robert Robertson.

Members of the shell community welcome R. Tucker Abbott with a dinner party before the October 1993 Jersey Cape Club meeting. Pictured are, back row from left, Phil Dietz, J.B. Sessoms, Abbott, Gary Rosenberg, former Jersey Cape Shell Club President the late Dr. Marty Bortner, and former Jersey Cape member Greg Fulginiti holding George the Cat. Seated from far left are the late Angela Bortner, Sue Hobbs, Eliza Dietz, and Roberta Sessoms. Photo courtesy of Sue Hobbs.

The Bailey-Matthews National Shell Museum in Sanibel, FL. – an R. Tucker Abbott dream come true.

for shell collectors," Robertson said. "He was a marvel with amateurs, bringing out the best in people. At the same time, he was a good researcher, publishing prolifically, not only papers and monographs, but a series of excellent books, notably *American Seashells*. His *Kingdom of the Seashell* has a nice natural history slant to it, including some of my photos."

Perhaps Abbott's ultimate achievement was the founding of The Bailey-Matthews National Shell Museum in Sanibel, FL. The project, which saw planning begin in the 1980s, became a legacy of love for Abbott. One year after the 1992 ground-breaking, Abbott spoke before the Jersey Cape Shell Club at the Wetlands Institute in Stone Harbor, NJ. His topic, "The Wonderful World of Land Snails," was promoted in the club's October 1993 newsletter. Editor J.B. Sessoms described Abbott as a "molluscan Johnny Appleseed."

"Wherever [Abbott] goes, shell clubs seem to spring up," Sessoms wrote. "He is listed as cofounder or honorary life member of at least 19 of them. We could go on and on, but the simple fact is, if you're a shell collector, this is a man you should meet."

For this talk, Abbott stayed at the home of Sue Hobbs and Phil Dietz who hosted a dinner party in his honor. In attendance were Gary Rosenberg, J.B. and Roberta Sessoms, and other local members of the shell community. "Tucker arrived mid-afternoon and when I suggested he might like a snooze before dinner, he readily agreed," Sue recalled. "He was a charming guest and at the time was looking for some genuine wampum beads for The Bailey Matthews Museum. Tucker was launching his new book, *Compendium of Landshells*, and had copies for sale at the meeting."

Sadly, Abbott passed away in 1995 just two weeks before The Bailey-Matthews Museum opened. He is buried at Arlington National Cemetery.

Today, the Philadelphia Shell Club remembers this icon of malacology with the R. Tucker Abbott Award at each year's Philadelphia Shell Show. Given for the best exhibit by a member of the Philadelphia Shell Club, the award honors Abbott's legacy as an inspiration to generations of amateur collectors and professional malacologists.

Additional reading on R. Tucker Abbott:

Peck, Robert McCracken, & Patricia Tyson Stroud. 2012. *A Glorious Enterprise: The Academy of Natural Sciences of Philadelphia and the Making of American Science, Philadelphia.* University of Pennsylvania Press, 400.

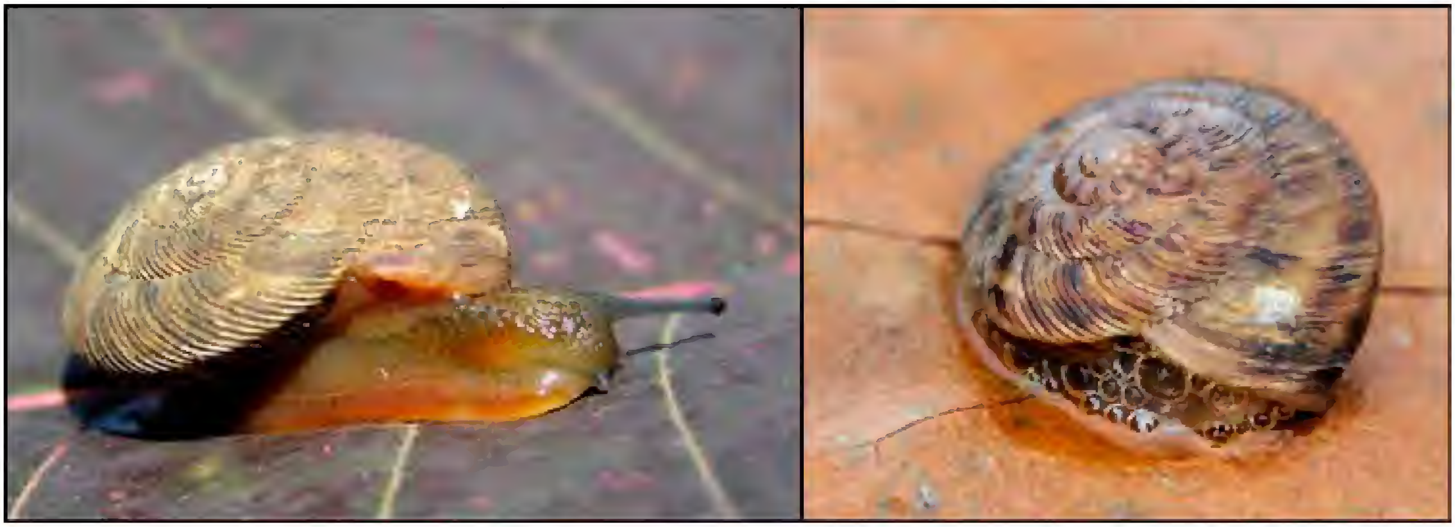
R. Tucker Abbott. Wikipedia: The Free Encyclopedia, http://en.wikipedia.org/wiki/R._Tucker_Abbott

Scheu, Lynn. 1995. *Robert Tucker Abbott: September 28, 1919 - November 3, 1995*. The Conchologists of America website, http://www.conchologistsofamerica.org/articles/y1995/9512_scheu.asp

Sessoms, J.B. (ed.) 1993. *Newsletter of the Jersey Cape Shell Club*, October 1993, Stone Harbor, NJ.

Report on two *Anguispira alternata* (Say, 1817), flamed tigersnail, after two years in captivity.

L. Schroeder (photos by author)



Left: *Anguispira alternata* (Say, 1817), the flamed tigersnail as found in the wild. The angular or carinate shape of the shell periphery is quite evident.

Right: The same specimen after light cleaning. The bubbles are produced whenever the snail is disturbed.

Prologue:

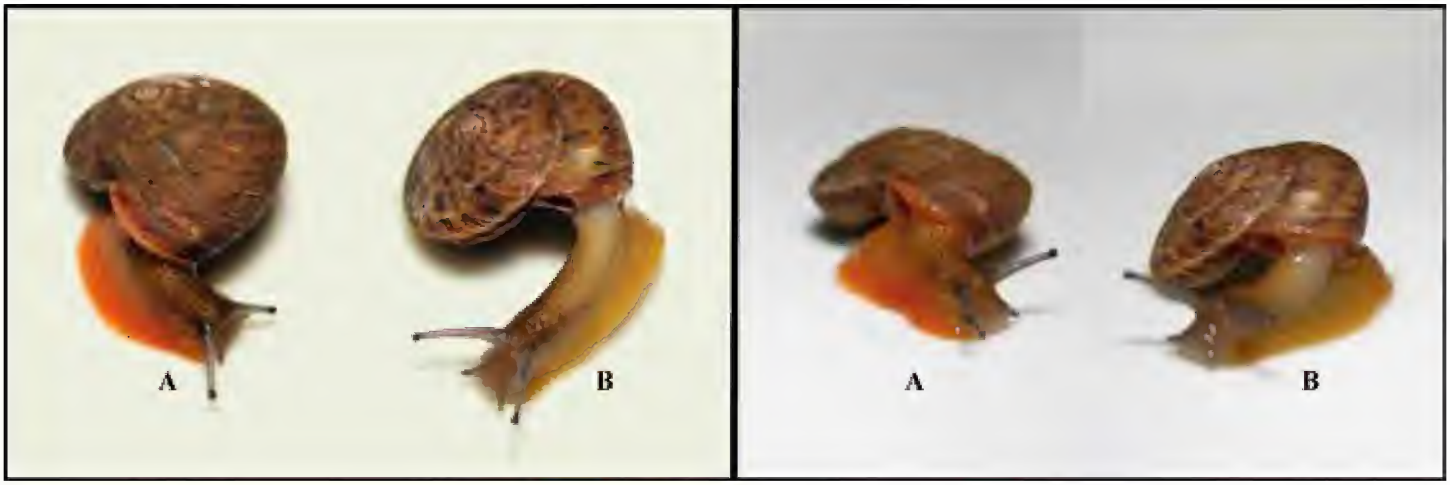
You will notice in the first paragraph that this article was written almost three years ago. The manuscript was misplaced and long forgotten until a recent conversation with colleagues John Slapcinsky, Invertebrate Collections Manager, Florida Museum of Natural History, Gainesville, FL; Dr. Harry Lee, Jacksonville, FL; and Alan Getteleman, Merritt Is., FL; while examining wet and dry lots of *Anguispira* spp. in the museum's collection during the recent gathering of Florida Unified Malacologists (FUM). During the intervening years, work on other projects related to the Bernheim Arboretum and Research Forest Landsnail Inventory (BARFLI), has greatly advanced my understanding of land snails and their ecology.

Snails in Captivity:

In October of 2009, during a late season field trip to a productive snailing spot, several species of land snails were collected for the purpose of obtaining live animal shots. Bad weather befell the following week, making optimal conditions for digital photography impossible. After several days it became apparent that some sort of food offering should be attempted. Broccoli and carrots were available and thus began the keeping of land snails in captivity for observation. That was October 25, 2009, and it is now April 25, 2012. The last two remaining snails to survive in captivity are two *Anguispira alternata* (Say, 1817), (the flamed tigersnail – Turgeon, Quinn, et al., 1998).

With no background in snail husbandry to fall back upon, an initial search on Google yielded little more than links to rearing freshwater snails for use in ponds and the aquaria trade, and raising giant African land snails. Fresh carrots and broccoli seemed to satisfy until proper photographs could be obtained. A quick scan through the table of contents of *The Mollusks: A Guide To Their Study, Collection, and Preservation*, yielded better results. A chapter on 'Rearing Terrestrial Gastropods' looked promising. Tracking down cited articles online proved challenging, but Table 23.1. 'Foods for Rearing Some North American Land Snails,' in addition to a source of calcium seemed to answer my needs. Specific recommendations for *Anguispira* spp. lists the following: lettuce, oatmeal, dried maple leaves, fish food, carrots, (Elwell and Ulmer 1971, Pearce 1997, Orstan, unpublished), but the *Anguispira* were either opportunistic feeders, or non-discriminating as they seemed well sated on what was readily available. Dried leaves were added, which initiative soon became problematic. Setting the book aside after looking over the table, I never completed the chapter. This was a huge mistake on my part as it would have better prepared me for the second hurdle, which came sooner, rather than later.

In addition to the *Anquispira* [Eupulmonata: Stylommatophora: Discidae], species representing two other families were collected. A *Mesomphix vulgatus* H.B.



Images of both *Anguispira* showing the variable colors of the foot and mantle. Both shells also have slight hues matching the animals. The snails were not collected around the same escarpment. Perhaps different limestone or available food source might account for the striking differences.

Baker 1933, (common button – Turgeon, Quinn, et al., 1998) [Eupulmonata: Stylommatophora: Zonitidae] lasted the shortest time in captivity. Records indicate the *Mesomphix* made it just days short of fourteen months. An *Inflectarius inflectus* (Say, 1821), (shagreen – Turgeon, Quinn, et al., 1998) survived eighteen months and a *Mesodon thyroidus* (Say, 1817), (white-lip globe – Turgeon, Quinn, et al., 1998) both [Eupulmonata: Stylommatophora: Polygyridae] died March 31, 2012, after 29 months, leaving the two *Anguispira*. The longevity of land snails living in captivity far exceeded my expectations.

At first the two snails were easily identifiable by the different colored foot and mantles. One snail was yellow and the second a dark rust. As time passed, both snails morphed to the dark rust color, but first let's go back to when all the captives were introduced into the vivarium...

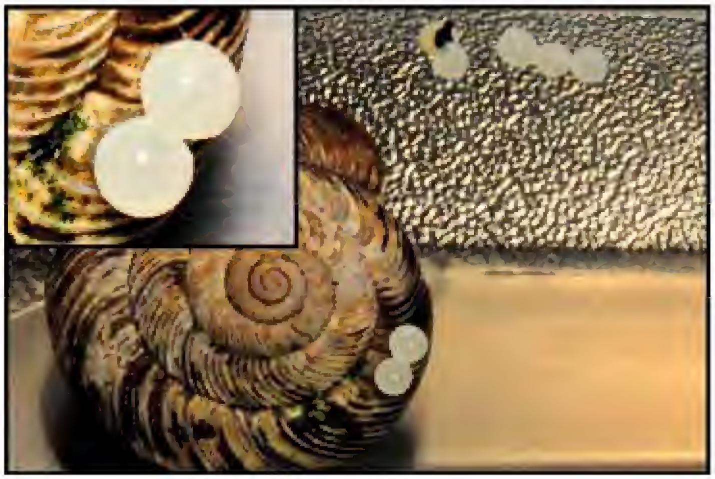
During the first three or four days, items were introduced into the multi-species terrarium. The *Anguispira* staked out their territory around a limestone rock. Broken egg shells were left to provide a second source of calcium. Sticks and leaves were also added to mimic their natural environment. The road to Hell is paved with good intentions, and an oversight on my part almost led to the demise of the vivarium. Every individual inside the terrarium soon became horribly infested with spider mites. The sheer number of mites crawling on the animals looked grotesque. The predicament led to, "How does one eradicate spider mites living on land snails in captivity?" Not a topic easily Googled either. If only I had read a little further in Chapter 23 of "*The Mollusks*" I might have been better informed, but then again, if I had read the pertinent paragraphs I may have become discouraged and not attempted an eradication protocol on my own.

The mites were observed retreating inside the shells when disturbed. The only plan of action that seemed non-lethal to both humans and mollusks was to rinse the animals under the faucet while the mites were actively crawling outside the shells. By holding the snails completely still and using a deft hand maneuver, a fair number of mites could be rinsed off in a swift lateral move while rinsing under a running faucet. This procedure was repeated five times a day for approximately one week until no more mites were observed. Only one juvenile succumbed to the infestation, a juvenile *Mesodon* sp. No further native plant material collected in the wild was placed inside the terrarium, although it would probably work if the introduced material was dried in an oven beforehand.

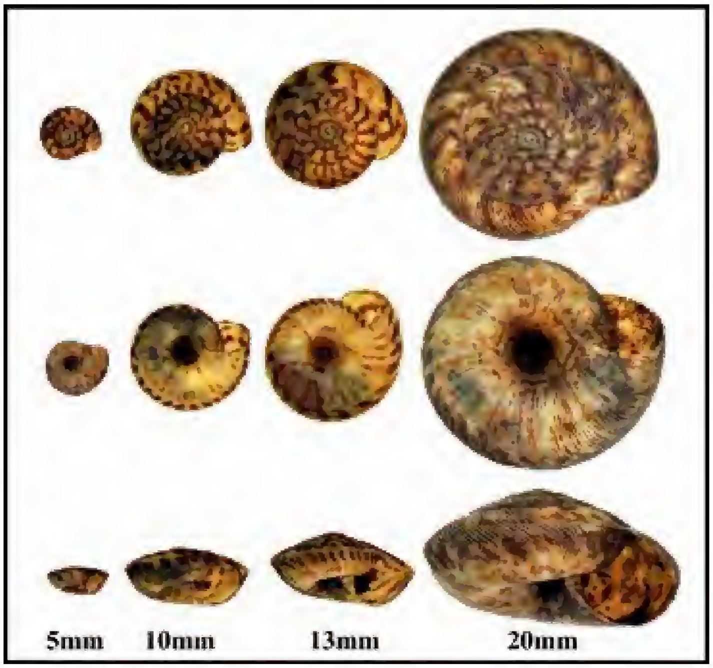
Back to the last two survivors... Measurements were first obtained on November 6, 2009. "Rusty-foot" (Specimen A) was 20.72mm and "Yellow-foot" (Specimen B) was 19.67mm. After a six month interval a second round of measurements were taken which showed significant growth by both individuals. Specimen A had reached 23.65mm, an increase of about 3mm. Specimen B measured 22.30mm, which was also an increase of 3mm. Materials used for measuring were electronic digital calipers and as shown in Burch (1962) in Fig. 13 (d).

Carrots and broccoli were mainstays of their diet. Lettuce and mushrooms were popular, but within days the mushrooms would develop "fungus" and broccoli became quite malodorous after a few days, so lettuce and carrots became the bulk of their diet.

To mark the one year anniversary, a third set of measurements were recorded on December 20, 2010. Specimen A registered 23.54mm, which is slightly less than the previous reading. Specimen B measured in at 22.96mm, only a slight increase. According to Dourson [2010], the diameter (maxD) of *Anguispira alternata* ranges from 15-



Eggs discovered on lunch break, with a magnified view of two of the larger eggs – less than 2mm.



The shells used to construct the growth series were all collected on the same date and same location as the live specimens. Immature shells have an almost flat dorsum giving the snail an acutely sharp or carinate periphery. As the snail matures the dorsum becomes more inflated and the angled periphery becomes less evident. The umbilicus is funnel shaped.

30mm, which is the same as listed in Burch (1962). Walker (1928) does not mention size in his discussion of *Anquispira*. In Pilsbry (1948) three specimens are documented from New York and Ontario, which is not representative of the middle states, with sizes of 18 to 23.9mm. Due to the likelihood my snails are lacking the proper nutrition they would find in the wild and considering the sizes previously listed, I felt the snails had probably reached maturity. For that reason no measurements were taken in 2011.

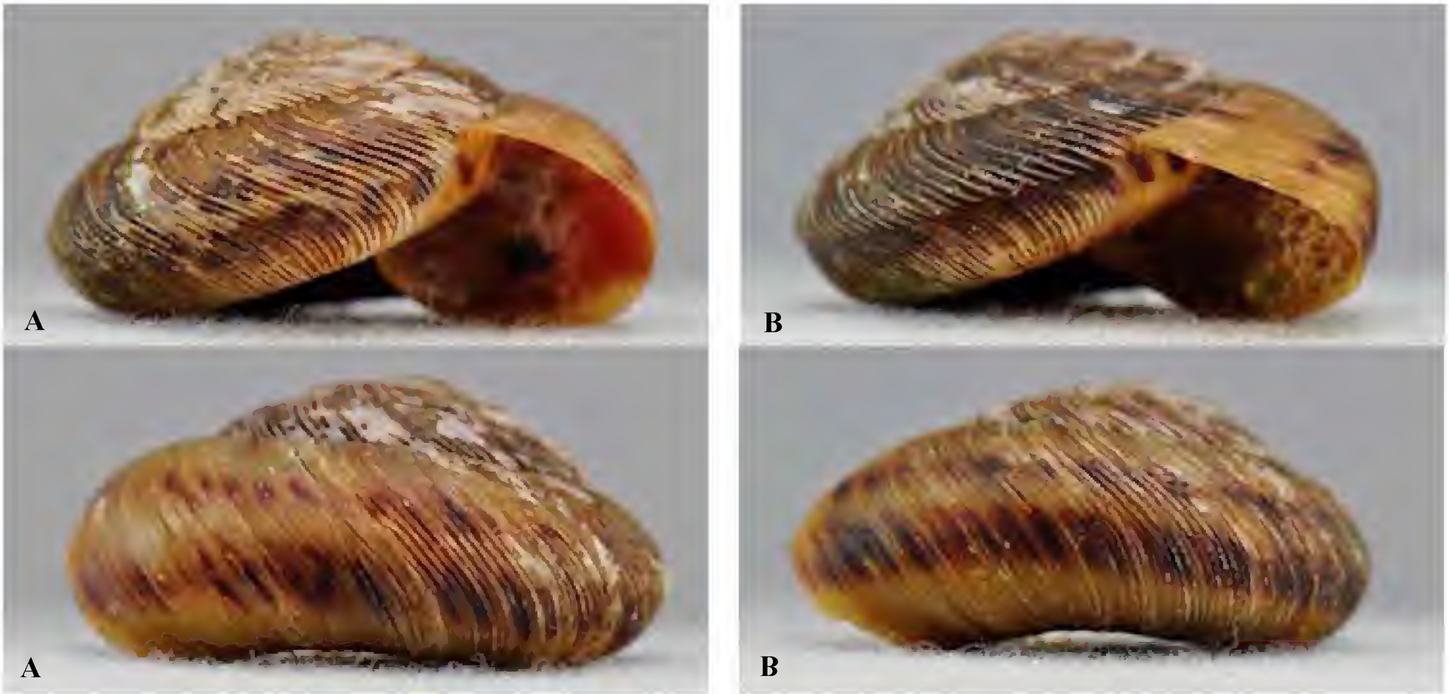
On December 23, 2010, during a lunch-time blitz to clean the terrarium before the Christmas holiday, I found ova inside the terrarium next to Specimen A. The ova were removed from the adult terrarium and segregated into a separate nursery for hatching. In all, seven eggs were counted and measured. Somewhat variable in size, the smallest to largest was 1.41mm to 1.99mm. My notes indicate the smallest ovum did not look viable, but lack any notation as to why. Between Dec. 23, 2010, and January 1, 2011, one ovum disappeared. Another was looking precariously on the edge of breaking apart. A short period later the ova began morphing into a liquid state. Using microscopic enhancement at 10X, no developing embryo was observed *in ovo*.

On April 5, 2012, shell damage appeared on one of the *Anguispira*. After several years the snails are looking old and worn with age. Not knowing how long snails survive in captivity, or how much longer the *Anguispira alternata* would remain living, I took a final set of measurements on April 6, 2012, after a photo session. Specimen A came in at an impressive 27mm and Specimen B was a mere 24mm. Sixteen months later the snails had indeed grown, not quite reaching the maxD of 30mm.

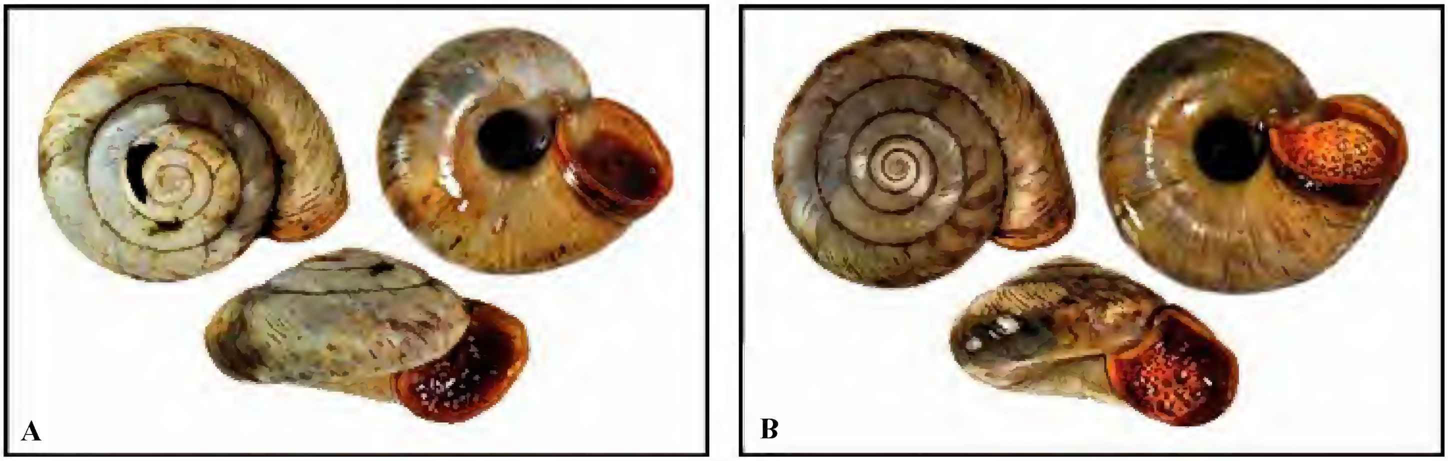
A few observations of note. *Anguispira* are sedentary during the day and nocturnal as far as their activity. I know they move around, but rarely have I seen this during the day. Not a true calciphile species according to Hubricht, 1985 (a species with a narrow habitat tolerance), the two exhibited a preference for limestone. Neither snail ventured any distance from the rock inside the terrarium. A species contrasting with the *Anguispira* would be *Mesodon thyroidus,* which was highly active and would escape the terrarium nightly if the lid was not properly secured. Both snails had different colored mantles, but over time the lighter-hued snail eventually turned darker. I don't know what to make of the bubbles or staining mucus. Are the bubbles a byproduct secreted as the snail suddenly retracts inside its shell? Is the mucus a way, perhaps, of making the snail unpalatable to predators. No radular markings were observed on the limestone rock. How do snails extract calcium from limestone unless the mineral naturally leaches out.

	11/06/09	**05/15/10**	**12/20/10**	**04/06/12**
Specimen A	**20.72**	**23.65**	**23.54**	**27.47**
Specimen B	**19.67**	**22.30**	**22.96**	**24.19**

Table 1. Measurements recorded at intervals. Sizes are in mm.

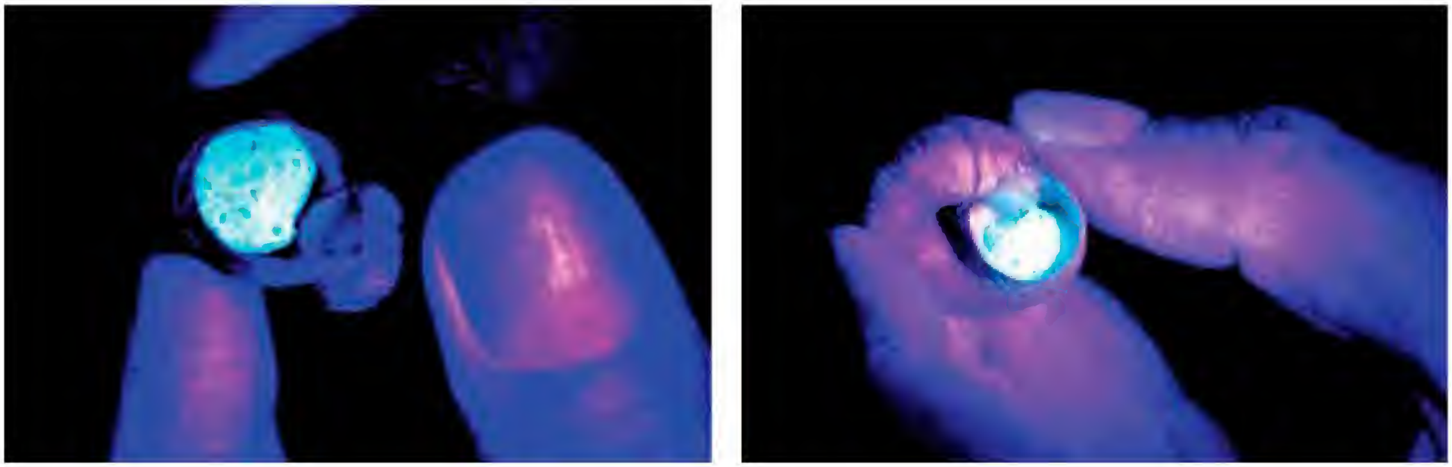


The photos above were taken in May of 2010 . The *Anguispira* on the right (Specimen B) has a slight yellowish hue as opposed to the more reddish snail on the left (Specimen A). Both snails are blowing bubbles. The periostracum is intact but showing signs of wear. The shoulder exhibits a slight carinate periphery. The striae are well defined and somewhat coarse. The colored blotches are hard to distinguish as they bleed somewhat into each other forming two bands around the exterior.

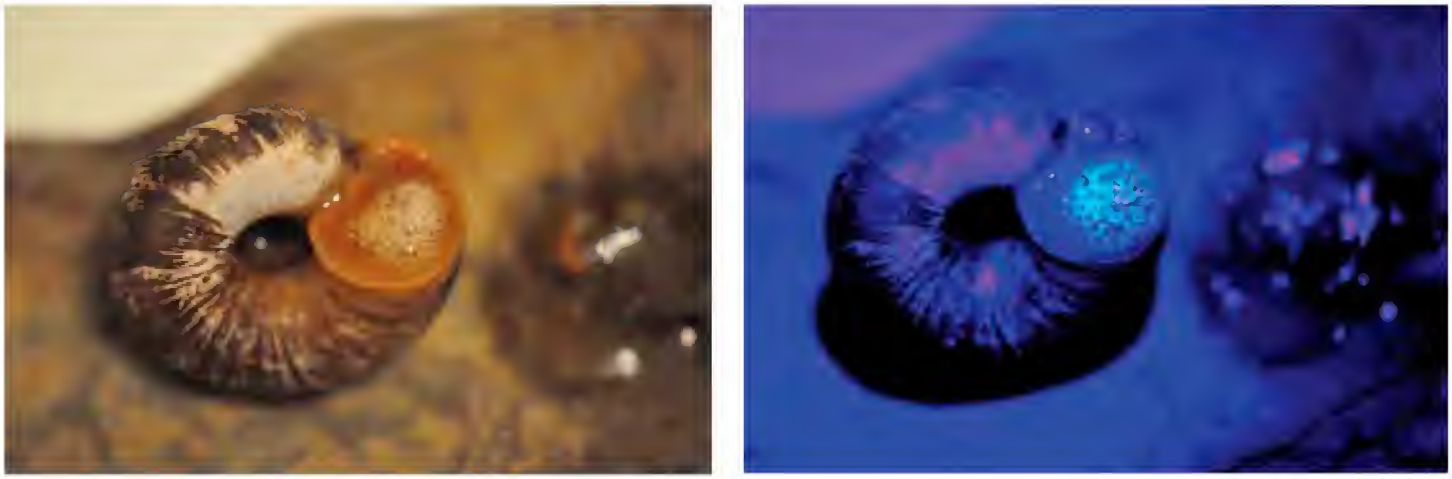


The images above demonstrate the current (April 25, 2012) condition of these live geriatric land snails. The shell on the left (Specimen A) was fine on April 1, 2012, but now shows evidence of trauma or possible internal resorption. Since both snails very rarely stray from their rock, this poses a mystery as to how the damage occurred. Both snails will produce bubbles when disturbed as exhibited by the specimen on the right. The substance secreted by the snails will stain, though it does wash off fingers easily. Neither aperture is uniform or regular in shape.

Three problems arose during the past couple of years. What to feed the snails to keep them alive and how to deal with the spider mites were solved by searching the Internet, scouring bibliographies, and by using practical materials at hand. William Frank, Jacksonville, FL, maintains a "Kentucky Land Snail Gallery" (http://www.jaxshells.org/kentmain.htm) at his (www.jaxshells.org) website. While researching material for the article, I came across a third issue. A taxonomic trend concerning the discrepancy of the year named with the taxon author. Say (1816) is used in most references versus Say (1817), the latter infrequently cited but adopted by jaxshells.org and Dr. Harry Lee. I was able to



Anguispira kochi **(L. Pfeiffer, 1846), (banded tigersnail), shown under a ultraviolet (UV) light, the snail's defensive mucus is exhibiting fluorescence.**



Anguispira alternata **in a similar experiment. It was easy to get the snail to emit defensive bubbles, but it took many tries and several weeks to elicit the even less than moderate response on the right.**

track down Say's original description in Binney (1858). This excerpt from Binney left me unsatisfied: "Note. – I have personally consulted all the works referred to above, with the exception of the first American edition of Nicholson's Encyclopedia. This I have not been able to find. I give its date as 1816, on the authority of Férussac, Mag. de Zool. 1835, cl. v. 59, 60, p.11. I believe its species to be the same as in the second edition. The dates in the text and index are invariably of the publication of the various papers, without reference to the time they were read before any society. In the journal of the Academy, I have been forced to adopt the date of the general title page of each volume, unless with the signature, or as the commencement of the various parts, some other date is given."

Reaching a high level of frustration an SOS was sent out to Dr. Lee to help clear the lacuna of the taxing problem of the dates. Here's the advice of the good doctor: "on the matter of 'Author/Year,' I urge you to follow the tenet of Thomas Jefferson: 'In matters of style, swim with the current; in matters of principle, stand like a rock.' I suspect you're aware of this: I consider taxonomic nomenclature a matter of principle.... All I can do with the Say date(s) is the following (and strongly urge you not to follow the vast herd of sheep to slaughter)." After reading the extensive bibliography cited by Dr. Lee, particularly Binney (1864: 277-278) and Johnson (1975), concerning this issue, this amateur conchologist is led to adopt *Anguispira alternata* (Say, 1817) as the correct year named, which work includes *Mesodon thyroidus* (Say, 1817), also related to the BARFLI project.

Epilogue:

In October of 2014, David Kirsh, Durham, NC, collected a live *Anguispira kochi* (L. Pfeiffer, 1846), (banded tigersnail), at Bernheim Arboretum and Research Forest (BARF) in association with a "Land Snail BioBlitz." Shown here under a UV light, the snail's defensive mucus is exhibiting fluorescence

Would another member of the Discidae family exhibit the same? With the aid of a UV light, an experiment was conducted with a live *Anguispira alternata* collected at

BARF to test the theory. Early results were inconclusive. The defensive mucus turned an ugly gangrenous-putrid shade of green, but not the glowing-neon version. The snail would also arbitrarily secrete regular (non-biofluorescent) mucus or defensive (biofluorescent) mucus. After several weeks and numerous attempts, the following images were obtained to document the phenomenon of biofluorescence in *Anguispira alternata*.

Acknowledgments:

I am deeply indebted to Dr. Harry Lee, Jacksonville FL, for assistance with taxonomic issues. His enthusiastic support of the "BARFLI" project has greatly advanced the knowledge of the biodiversity of the land snails relating to the Knobs Region of Kentucky. To my husband Jeff Schroeder for technical assistance, photography, and unwavering support of my research. William Frank, Jacksonville, FL, Dr. Harry Lee, and Jeff Schroeder for the *Anguispira alternata* growth series composite.

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It is not too early to start making plans for next year's COA convention in Chicago, 2016. Field trips are planned for 25-26 July, the actual convention is 27-31 July, and the bourse is 30-31 July. The hotel is the Crown Plaza with a free shuttle from the airport. Regular rooms are $148 (suites $248) with a reservation made before 6 July 2016. Tentative field trips include a visit to the Shedd Aquarium, a background tour of the Field Museum of Natural History, a Chicago River and Lake Michigan boat tour, and an evening dinner-cruise on Lake Michigan. See you there.

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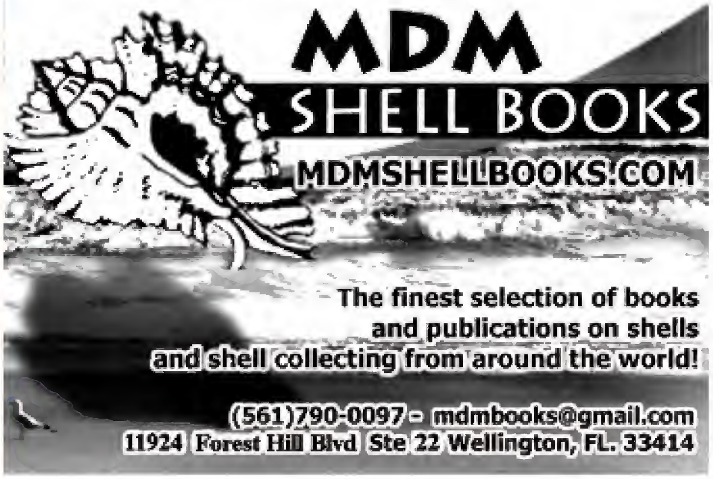
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The best exotic South Seas snorkeling adventure

Amelia Ann Dick (photos by author except as noted)

Bora Bora in French Polynesia. A sparkling green gem. Photo anon.

Although my title may sound similar to the name of a popular Hollywood movie, this is the real thing! In December 2014, a long-time dream of mine came true. My husband and I took the best exotic French Polynesian adventure, which surpassed even my own Tahitian dreams! French Polynesia is an area that comprises 118 geographically dispersed islands and atolls over an expanse of l,609 square miles located in the South Pacific Ocean. We visited three of the island groups out of the five that compose this part of the world: the Society Islands, the Marquesas Islands, and the Tuamotu Archipelago – which encompass a fascinating and unique array of diverse geology. Also noteworthy to mention is that December is a summer month there. Most of the days were punctuated with warm intermittent brief showers and to our delight most of the plants were in full bloom. I do believe the most beautiful flower in French Polynesia is the Tahitian Tiaré, a small white gardenia with a remarkably alluring, unforgettable fragrance.

Our magical vacation began on December 6, 2014, with a stay at the Tahiti Intercontinental. The island of Tahiti is the largest in the Society Islands and its tallest mountain, Mt. Orohena, rises to a height of 7,352 feet above sea level, making it the highest peak in all of French Polynesia. After touring the bustling town of Pape'ete, we embarked on the all-

The Tahitian Tiaré (*Gardenia taitensis*) is a tropical shrub that can grow to more than four meters tall. The fragrant white flowers have from five to nine petals in a pinwheel shape and are are used to make monoi oil, an ingredient in perfume and skin care products. This is the national flower of French Polynesia. Photo anon.

Exploring the beach and enjoying mild weather with overcast skies. That's me on the right - enjoying it all.

inclusive, seven hundred guest capacity, Regent Seven Seas Mariner on December 7, 2014. We continued our magical mystery tour with visits to Mooréa, Raiatea, and Bora Bora. These three islands mystify with their worn, tall, craggy peaks, their myriad palette of exotic greens seen in their tropical rainforests, and their mind-blowing kaleidoscope of blue hues in their famous lagoons.

THE SOCIETY ISLANDS

MOORÉA - December 8, 2014

We arrive at Mooréa on an overcast morning and cruise alongside the island witnessing her astonishing beauty firsthand. Mooréa is a volcanic island by origin and is situated 11 miles northwest of Tahiti. Her tall peaks and spires include Mt. Tahiiea, the highest at 3,959 feet above sea level, and the famous Mt. Roa, or "Bali Hai," from the movie South Pacific, which tops out at 2,499 feet. The unique geology of this island forms two spectacular bays. Opunohu Bay is located on the west side of the island and Cook's Bay on the east. The ship anchored in Opunohu Bay just off the village of Papetoai. Our tour destination today is a lagoon location northwest of Opunohu Bay and included some up close and personal introductions to the local stingrays, which were fed little fish by the tour guides. I love touching them. Black-tipped sharks also show up trying to take advantage of a free fish snack. They do not like being touched and with amazing speed dart off, only to quickly return. What Fun!

Afterwards we concentrate on snorkeling in the lagoon and find some very pretty shells. We gather *Gibberulus gibbosus* (Roding, 1798); *Terebra subulata* (Linnaeus, 1767), *Oxymeria maculata* (Linnaeus, 1758), *Conus pulicarius* Hwass in Bruguière, 1792, *Moneteria obvelata* (Lamarck, 1810), and *Monetaria moneta* (Linnaeus, 1758). The biggest thrill for me, however, was when I looked down and spied that distinctive conical shape, took a deep breath and dived, and then rose to the surface with two live *Conus imperialis* Linnaeus, 1758. The largest is approximately 54mm and the slightly smaller one is around 53mm. All of the shells were taken in less than six feet of water, on sand and silt bottom with coral rubble. Also, of environmental concern and noteworthy to mention is that most tour operators did not allow diving fins while snorkeling in any of the island lagoons. This step is taken as a deterrent to minimize coral destruction. We liked that.

RAIATEA – December 9, 2014

We arrive under cloudy skies at Raiatea which is the second largest island in the Society Islands. What I remember most is the lush and green rainforests and those breathtaking eroded mountain spires. The *RSS Mariner* docked at Uturoa on the east coast, which was the only port-of-call on our itinerary with a pier. We selected a tour that visited the Faaroa River with snorkeling on a motu. The Faaroa River is the only navigable river on the island and is considered the original source of migration by the Maori people. When exploring the area, Captain Cook noted that logs were floated down the river to build the numerous ships under construction. The Faaroa River flows into Faaroa Bay with its massive fjord-like indentation carved deep into the shoreline.

Still traveling east, the bay enters the lagoon and we arrive at our snorkeling destination – the Iriru Motu. The shells we found here were in less than six feet of water, on sand and silt bottom littered with coral rubble. Here we found the same species as we did the day before on Mooréa, with the addition of dead *Fragum fragum* (Linnaeus, 1758) and *Tridacna maxima* (Röding, 1798). Saving the best news for last, the biggest thrill for me today is the discovery of three live *Conus quercinus* [Lightfoot], 1786. Two were side-by-side on the bottom and the third one was less than three feet from the pair. What a bonanza! They measure approximately 49mm, 50mm, and 57mm. Cleaned and saved with operculum. We were on a real "shell" high.

BORA BORA – December 10 and 11, 2014

It was slightly overcast this morning as we arrive in Bora Bora. The ship dropped anchor in the bay off the village of Vaitape. This is the one I have been waiting for and dreaming about for so long. My Mom, who has travelled quite extensively, told me it was "the most beautiful island she had ever seen" – AND IT IS! Bora Bora was formed by a volcanic eruption some four million years ago and 'discovered' by Captain Cook in 1769. It is a ring-shaped island encircled by a glinting turquoise lagoon with soaring rainforest covered basaltic peaks. At a height of 2,385 feet, Mt. Otemanu is the tallest mountain on Bora Bora and commandeers the island skyline. We will have two days here. Today, December 10, 2014, we take another tour similar to the one on Mooréa which includes close encounters with stingrays and black-tipped sharks, but most importantly, we will enjoy our time snorkeling in the infamous lagoon. As a note, we liked this tour so much we repeated it on December 11, 2014. Compared to other tours being offered, it gave us the most time in the lagoon, which is where we wanted to be. The lagoon bottom was very similar to Mooréa and Raiatea.

Once again, between the two of us, we got some very nice shell booty. We took three live *Mitra mitra* (Linnaeus, 1758); two live *Conus leopardus* (Röding, 1798), a live *Conus eburneus* Hwass in Bruguière, 1792, and a live *Tectus niloticus*, (Linnaeus, 1767). We made fast friends with one of the tour guides and discreetly expressed our interest in finding shells. At the end of the tour he secretly pulled out of his pocket a live *Cypraea tigris* Linnaeus, 1758 and a live *Lyncina vitellus* (Linnaeus, 1758). Both shells were absolutely beautiful! We were giddy with delight. George tipped him for the shells and we were wondering what tomorrow would bring.

December 11, 2014, a sunny morning greeted us. Once again, in the lagoon, we enjoyed all the colorful species of tropical fish swimming around us and the varied coral species, which comprised large coral gardens. I absolutely loved seeing the *Tridacna maxima* living inside coral heads with those glamorous teal, purple, and brown mantles. We found some pretty shells, including another Episcopal miter, but nothing could compare to what our guide found and pulled, once again, out of his pocket at the end of the tour – another live tiger cowrie. We were surprised to see another tour guide had brought up a large dead commercial top shell for us. Obviously there had been some quiet conversation between them. Again, we happily tipped them both for their finds and we were off. What a lovely day in Paradise! This evening the *RSS Mariner* sets sail for Nuku Hiva, Marquesas, and tomorrow, December 12, 2014, is a day at sea.

THE MARQUESAS

NUKU HIVA – December 13, 2014

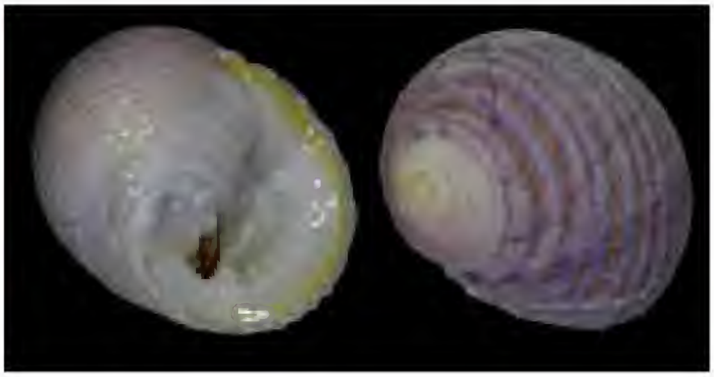
Grand, brooding, powerful and charismatic: that pretty much sums up the largest island in the Marquesas – Nuku Hiva. The ocean thrashes towering sea cliffs, sharp basalt pinnacles project from emerald forests and scalloped bays are blanketed with desert arcs of white or black sand. The *RSS Mariner* arrives at 1:00 p.m. and drops anchor off Taiohae, the island capital, boasting a great black sand beach on a horse-shoe shaped bay. Arriving onshore and departing the tender pier, we are greeted by traditionally dressed islanders who cheerfully point us in the direction of the souvenir market. On our walk over, I was mystified with and captivated by, the tiki-tiki (sacred statues) and tohua (open air gathering places) created by the original inhabitants. The market had many tables with a wide variety of hand-made jewelry, hand-carved tiki-tiki, and bottles filled with tiaré oil. I was also delighted to see many shell species being offered for sale at the whopping price of 4 for one U.S. dollar! A 25 cent shell is hard to find these days. I really made out! *Mauritia maculifera martybealsi* Lorenz, 2002; *Mauritia mauritiana* (Linnaeus, 1758) (both juvenile and adult shells); *Erosaria bellatrix* Lorenz, 2009; *Conus marchionatus* Hinds, 1843; *Cypraeacassis rufa* (Linnaeus, 1758); *Harpa major ivojardai* Cossignani, 2013; *Harpa kolaceki* Cossignani, 2011; *Lambis pilsbryi* Abbott, 1961; and *Mancinella armigera* Link, 1807. This last shell was a gift, I think for being a good customer. Can you believe after this it was only going to get better? Well it did.

Conus quercinus **fresh from the sea. It was a real joy to find this understated beauty crawling on the bottom in shallow water.**

I had an afternoon appointment with Xavier Curvat, the owner of the dive shop Polynices de Plongee in Taoihae. I was going to take a look at some specimen shells he had collected on his recent dives. He had some outstanding beauties to choose from, which happily are now in my collection. The Marquesas Islands provide a great shell collecting opportunity as many species are endemic to these islands.

The next day, December 14, 2014, we take an island tour of the Taipivai Valley. We leave Taoihae and travel up a winding mountain road to a scenic overlook, providing everyone picturesque camera shots of the town and bay. Our tour continues onward and we come to the Taipivai Valley where Herman Melville of Moby Dick fame hid after deserting his ship. Next, the caravan arrives at the small

A lone butterfly fish swimming amongst the coral.



A purple *Nerita plicata* was a surprise find. This very common nerite is usually white or pinkish white, with rare individuals showing some spiral charcoal bands or even an occasional red band. A shell with a soft pastel purple color is rare indeed.

village of Hooumi nestled on Controller Bay. Here we have a short stopover to stretch our legs and another opportunity to spend more $ at the local wares market. I am so glad we did, as I found a very dark *Lambis pilsbryi* for $19.00. After my purchase, I wandered around and discovered a tiny white sand beach. I found a very nice *Aplustrum amplustre* (Linnaeus, 1758), approximately 18mm. The color bands are a rich deep chocolate. Here our caravan turned around and went back to town. We had a short good-bye visit with Xavier and his wife and returned to the ship. December 15, 2014, is a day at sea enroute to Fakarava, the Tuamotu Archipelago.

THE TUAMOTU ARCHIPELAGO

FAKARAVA – December 16, 2014

French Polynesia takes a geologic "turn on her head" at the Tuamotu Archipelago. Her islands are coral atolls and Fakarava, being one of the largest, is essentially one giant beach. This narrow coral sliver shelters an expansive lagoon on one side from the mighty South Pacific Ocean on the other. A stunning feature here is a pink sand beach made from powdered coral rock rather than crushed seashells. A bright sunny day greets us as we begin another day in paradise. There were no tours offered at this location and so we are on our own. We arrive at the tender pier in the village of Rotoava where we are greeted by warm and friendly islanders. We make a bee-line toward the many tables draped with colorful batik fabrics and filled with items for sale. I was overwhelmed to see the most beautiful hand-made shell jewelry I have ever seen in my life. Remarkable quality, attention to every detail and unique design concepts puts this tropical jewelry in an exceptional category all by itself, with only the best shells being used. A feast for the eyes – and your neck. We saw some very nice *Lentigo lentiginosus* (Linnaeus, 1758), also known as the silver conch, priced at $3.00 U.S. dollars. Each one was flaunting a brilliant orange and cream aperture. Another very good buy!

We walked a little way down a long sandy road (the main highway) to find a good lagoon snorkeling spot where we saw species we hadn't encountered before on the reinforced rock slab shoreline. Here we plucked *Drupa morum* Röding, 1798; *Drupa ricinus* (Linnaeus, 1758); *Morula uva* (Röding, 1798); *Menathais tuberosa* Röding, 1798; *Nerita plicata* Linnaeus, 1758; and *Nerita polita* Linnaeus, 1758. The *Nerita plicata* was quite different from the normal white and pink variety. We leisurely delighted in taking many shell, fish, and coral pictures.

Knowing our time was growing short, we turned our sites to the ocean to see what we might find. This lonely small strip of white sand was so blanketed with shells you could barely find space to step. Shell Nirvana! We made the best of our 30 minute time frame to beach comb this idyllic place. *Cerithium columna* G.B. Sowerby I, 1834; *Nassarius graniferus* (Kiener, 1834); *Mammilla sebae* (Récluz, 1844); an assortment of unidentified colorfully patterned juvenile cones, limpets, ceriths, and a few more I still have no clue as to a correct identification. We hastily walk back to the tender pier all the while wishing Fakarava had been an overnight port-of-call.

RANGIROA – December 17, 2014

A perfect summer Polynesian day greets us with the sun casting an intense bright white light on everyone and everything. The surface of the lagoon seemed to be sprinkled with sparkling diamonds. Rangiroa is the largest coral island in the Tuamotu Archipelago and comprises 415 motus, islets and sandbars. The *RSS Mariner* drops anchor in the bay and we visit the village of Avatoru. One cannot travel this far and not seek out one of the most highly prized and desirable objects available only from the South Seas. Today is my last and only chance to check out this highly coveted product of nature – the black Tahitian pearl. From Avatoru, we take a

Closing shot – wouldn't you rather be there right now?

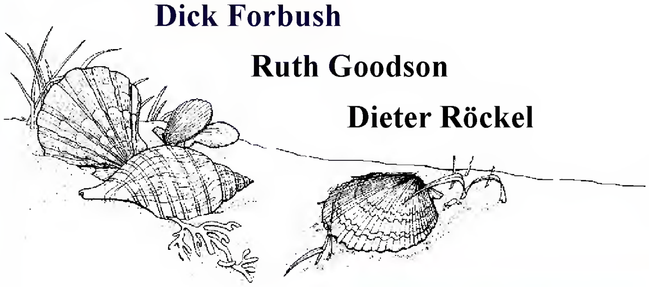
tour to the pearl farm, Gauguin Pearl Farm, to learn about the cultivation process of these "black beauties." The black-lipped oyster, *Pinctada margaritifera* (Linnaeus, 1758), is the creator of these intriguing gems and the pearls come in a wide range of natural colors, including: silvery gray, peacock, and pistachio green. We were fascinated to learn that the nucleus inserted into the appendix of the mollusk comes from a mussel species found in the Mississippi River. Also, it takes nine years for the animal to produce the largest and most expensive pearls. Complete with a jewelry shop on premises, one can choose their perfect pearl or pearls, which will provide unforgettable memories of the day. This evening, the *RSS Mariner* returns to Pape'ete, Tahiti and we disembark the morning of December 18, 2014.

In conclusion, our French Polynesian magical mystery tour turned out to be the "trip of a lifetime," in every way possible. As I write these words, all I can do is smile. It's going to be very hard to top this one.

Amelia Ann Dick
amelia-ann@msn.com

In memoriam:

Jane Colburn
Dick Forbush
Ruth Goodson
Dieter Röckel



Remembering Jane from *Suncoast Shorelines* by Carolyn Petrikin

Jane Colburn, a native of St. Petersburg, and her husband Ed, who passed away ten years ago, were both among the founding members of Suncoast Conchologists. Jane's love for collecting shells began in the late 60's while they were living in Kwajalein in the Marshall Islands. There she would spend many hours walking the reefs in search of local specimens. Her family remembers numerous pots of shells cooking on the stove and others stored in the freezer to be cleaned later when there was more time. While at Kwaj, Jane made good friends with a serious collector who insisted she learn to dive in order to find different species, especially cowries. And if she wanted to collect a "Golden," she would need to go at night. Daytime diving was one thing, but becoming used to the dark was something else! Jane made one attempt which proved to be enough - there was success and a beautiful *Cypraea aurantium* was brought home.

After six years overseas, Jane, Ed, and family returned to Florida, first locating in Oldsmar, and then the local collecting began! About ten years later, the Colburns moved to Tarpon Springs. Besides collecting shells, Jane also collected snails – figurines of all colors, shapes, and sizes. Her collection must have been in the hundreds.

Shortly after Ed retired, he began business as "The Sign Man." Of course Jane was right there helping create the name badges and pins. For the first Suncoast Conchologists Shellers' Jamboree, they suggested making magnets with the club logo as favors, and this idea was readily accepted by the committee. Their smaller snail was most popular with everyone who entered the Snail Parade competition. She will be greatly missed.

Richard W. Forbush, 91, of Venice, FL, passed away June 3, 2015. Richard was born April 17, 1924, in Cleveland, OH, to Minnie and Henry Forbush. He had a full life that included family, friends, church, and numerous volunteer services throughout his life. He served in the armed service, spent time in local government, and helped with youth organizations. He was an avid seashell collector traveling with his wife all over the globe to pursue his passion and served as President of COA in the 1980s with Anne Joffe as his Vice President. Both he and Anne received the Neptunea Award in 2005. He donated his shell collection to the Florida Museum of Natural History, Gainsville, FL. Survivors include his beloved wife of 69 years, Jane A. Forbush; children: Bruce & Heide Forbush, of Elmhurst, IL, Steven & Trudy Forbush of Conway, AR, and Carl & Jennifer Forbush, of Dublin, OH, as well as his 4 grandchildren, Gary, Scott, Ryan, and Aaron Forbush.

We must sadly inform of the recent passing away of **Dr. Dieter Röckel**, a well-known German malacologist and cone specialist. He authored a very large number of papers, in different publications and also two important books: *Cone Shells from Cape Verde Islands* – a difficult puzzle (with Emilio Rolán and António Monteiro) (1980, private publication, 156 pp., 8 color plates) and *Manual of the Living Conidae. Vol. 1: Indo-Pacific Region* (with Werner Korn and Alan J. Kohn) (1995, Verlag C. Hemmen, Germany, 517 pp., 84 color plates). Dieter described several cone species and his name was honored in *Africonus roeckeli* (Rolán, 1980) and *Bathyconus dieteri* (Moolenbeek, Zandbergen & Bouchet, 2008). From *The Cone Collector*, #27, Aug 2015.

18th Gulf Coast Shell Show

Sponsored by the Gulf Coast Shell Club at the Panama City Beach Senior Center, Panama City Beach, Florida, on 13-14 June 2015 (Photos are by Walt Baldwin)

Jim & Linda Brunner with their COA Award for their display, "Fossils of the Chipola Formation." The display had 9 cases covering over 19 feet with a wonderful presentation of 18 million-year-old molluscan fossils. The scientific judges at this year's event were Dr. Harry Lee and Alan Gettleman.

Scientific Division

Conchologists of America Award: "Fossils of the Chipola Formation," Jim & Linda Brunner

DuPont Trophy: "Muricinae: Beautiful Predators," Linda & Jim Brunner

Helen Norton Trophy: "Northwest Florida Shells," Al Johnson

Frozen Dip Net Award: "Self-collected Beach Shells of Northwest Florida and Ireland," Elizabeth Gibb

Most Educational: "Collecting Freshwater Mussels in China," Leslie Crnkovic

Self-collected Shell-of-the-Show: *Panopea bitruncata* (Conrad, 1872) (the Atlantic geoduck), Al Johnson

Shell-of-the-Show: *Tonna chinensis* (Dillwyn, 1817), Gary Gordon

Founders Award: "Musing on Shell Club History through Shell Club Pins," Leslie Crnkovic

Jim Brunner accepts the COA Award for the display, "Fossils of the Chipola Formation" from scientific judges Dr. Harry Lee (R) and Alan Gettleman (L).

Judges Special Award: "Monsters of the Deep," Gary & Earlene Gordon

Judges Special Award: "Rocky Seas," Kris Tiger

Awards by Category

Novice: 1st: Charlie Meyerriecks

Northwest Florida: 1st: Al Johnson, 2nd: Linda BeHage

One Large Family: 1st: Linda Brunner, 2nd: Kris Tiger, 3rd: James Redding, Hon. Mention: Al Johnson

One Small Family: 1st: Wayne & Patty Humbird, 2nd: Linda Walker

Florida-Caribbean: 1st: Ernie Bernard

One Genus: 1st: Gary & Earlene Gordon, 2nd: Al Johnson

Self-collected: 1st: Carol Mitchell, 2nd: Gary & Earlene Gordon, 2nd: Serena Saye (ties?)

Specialized: 1st: Leslie Crnkovic

Single Specimen: 1st: Wayne & Patty Humbird, 2nd: Wayne & Patty Humbird, 2nd: Linda Brunner, Honorable Mention: Kris Tiger

Educational: 1st: Leslie Crnkovic, 1st: Wayne & Patty Humbird, 2nd: Walt Baldwin, 2nd: Luke Cooley

Non-Marine Mollusks: 1st: Leslie Crnkovic

Sea Life: 1st: Al Johnson

Fossil: 1st: Jim & Linda Brunner

Creative: 1st: Carol Mitchell

Beach Shells: 1st: Elizabeth Gibb

Over 300 people attended this year's show.

Linda Brunner accepts the DuPont Trophy for "Muricinae: Beautiful Predators," from scientific judges Dr. Harry Lee (R) and Alan Gettleman (L).

Al Johnson accepts the Helen Norton Trophy from scientific judges Dr. Harry Lee (R) and Alan Gettleman (L). He also won Self-collected Shell of the Show and several category awards.

Miss Olivia Carney (L) accepting the Student Award from artistic judge Leanne Shell.

Adventures in the field and in the lab – investigation of an enigmatic door-snail species, *Montenegrina apfelbecki* (Sturany, 1907)

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Introduction

In the frame of the Conchologists of America 2014 Academic Grant, the first author had the possibility to organise a field trip to Albania and neighbouring Kosovo, in order to collect *Montenegrina* taxa/populations needed for the systematic revision and molecular phylogenetic reconstruction of this genus. Aside from some other localities, our primary target was the Shënt Mountain in Northern Albania, where we expected to find the species most in demand, *Montenegrina apfelbecki* (Fig. 1).

The need for a systematic revision of *Montenegrina*

Montenegrina is a genus of terrestrial, obligate rock-dwelling gastropods, distributed in the western part of the Balkan Peninsula (SE Europe). Due to the patchy distribution of their special habitat type (they live on bare limestone cliffs), the genus comprises several small range endemic taxa. According to the current system (Bank 2012), there are 88 known subspecies, which are classified into 22 species. Moreover, due to the intensive fieldwork activity of the researchers of the Hungarian Natural History Museum (HNHM) (Fehér et al. 2004, Fehér & Erőss 2009, Murányi et al. 2011) there are several recently discovered populations, some of which are presumed to be new taxa, which remain to be described. The systematics of the door-snails in the Mediterranean region were almost exclusively set-up on a conchological basis (Nordsieck 2007), however, our preliminary molecular studies revealed that most of the conchological traits, which were once considered taxonomically important, might have arisen several times independently and many 'species' in the current system might be paraphyletic. Thus for the taxonomic revision of this group, a sound molecular phylogenetic footing seems necessary.

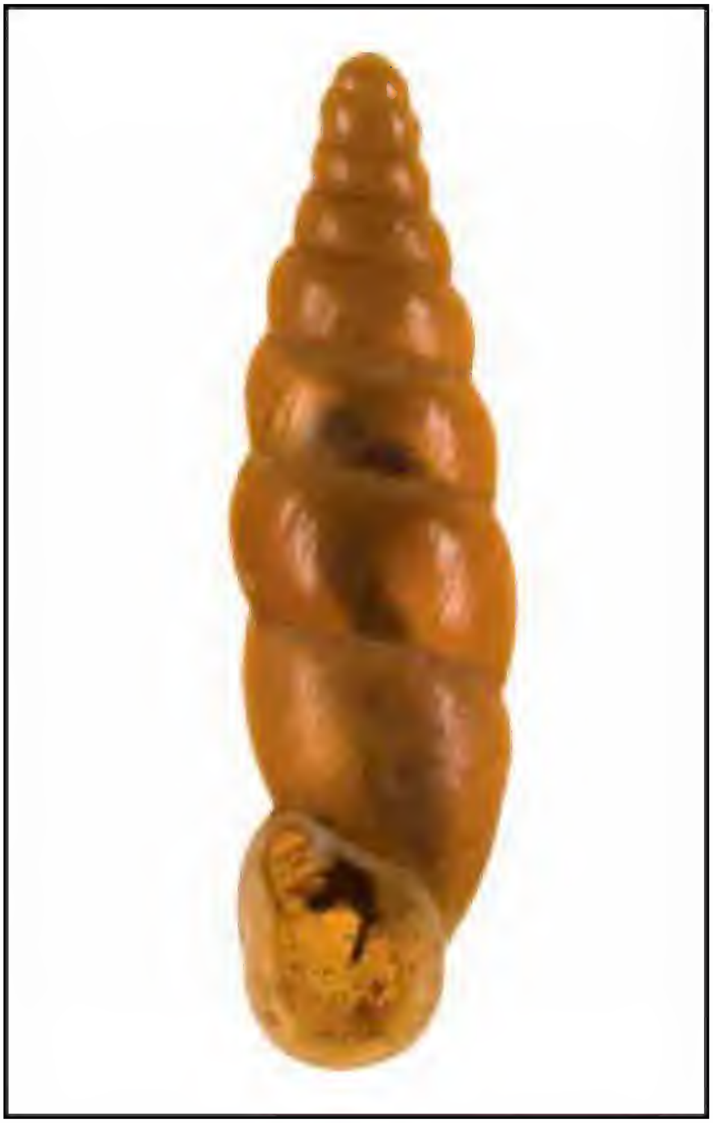

Figure 1. *Montenegrina apfelbecki* (Sturany, 1907), syntype specimen collected by Buljubašić in 1905 (NHMW 41166). Note the mummified body showing through the shell.

Following the footsteps of our forefathers

In 1905, Dr. Rudolf Sturany, curator of the mollusk collection of the Natural History Museum, Vienna (NHMW) and Viktor Apfelbeck, curator of the entomological collection of the museum in Sarajevo, performed a fieldtrip to Albania (Sturany 1905). They were accompanied by Latif Buljubašić, 'museum servant' from the Sarajevo museum. It took them several days to reach Albania, where they spent most of their time on mule-back. At that time, Albania was still under the Ottoman Turkish rule, however, their force barely intruded into the mountain settlements, which were dominated by Albanian tribes in constant conflict with each other. Wading across several rivers, the 50 km ride from Shkodra to Oroshi – center of 'darkest Albania' – lasted two days. While exploring the nearby mountains and their fauna, they were hosted by the local bishop (Fig. 2). Shortly afterwards the two curators left, but Buljubašić stayed in Oroshi for further, more extensive sampling of that area. During his two-months-long, hazardous stay (e.g. he survived an earthquake, in which the bishop's residency perished), he managed to collect a huge amount of invertebrate samples from the Shënt (Fig. 3), Munela, Zebë, and Koritnik mountains. A large part of this material was deposited and can still be found in the scientific collections at the NHMW. In his first travel report, Sturany (1905) mentioned a strange-looking and most probably new door-snail species, which was formally described just two years later, as *Clausilia apfelbecki*. Unfortunately, Buljubašić provided rather incomplete locality data for the collected material, namely, "Mal i Shëit bei Oroshi, Merdita, in einer Höhe von zirka 1500 m."

The progress of the zoological exploration of the northern Albanian territories did not become easier after this beginning. Due to the 1st World War, the Italian invasion, the 2nd World War, and finally the communist regime, it was very difficult for naturalists to reach that region until the 1990s (Dhora & Welter-Schultes 1996). Thus, hardly any zoologists have collected there in the past 110 years and, to our knowledge, nobody has ever managed to collect this species since it was originally collected. A few taxa have been described from northern Albania as subspecies of *M. apfelbecki*. Preliminary molecular analyses, however, indicate that these taxa are paraphyletic. Their systematic positions (and their correct taxonomic names) could only be defined after clarifying the phylogenetic relationship of the nominate taxon first.

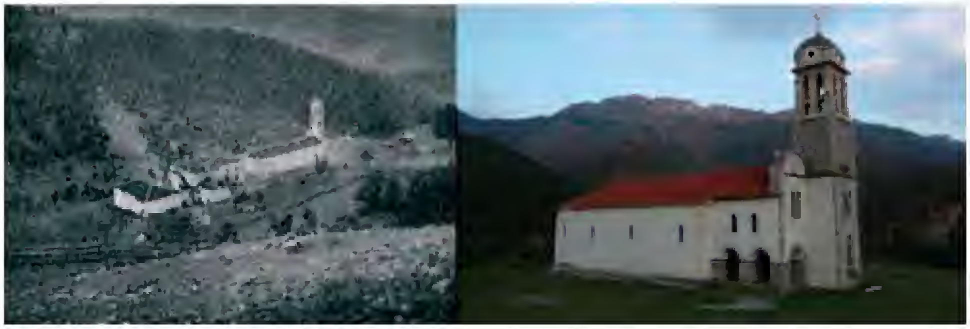
Figure 2. The abbey of Oroshi in Sturany's time and today. Black and white photo is an illustration from Sturany's travelogue from 1905.

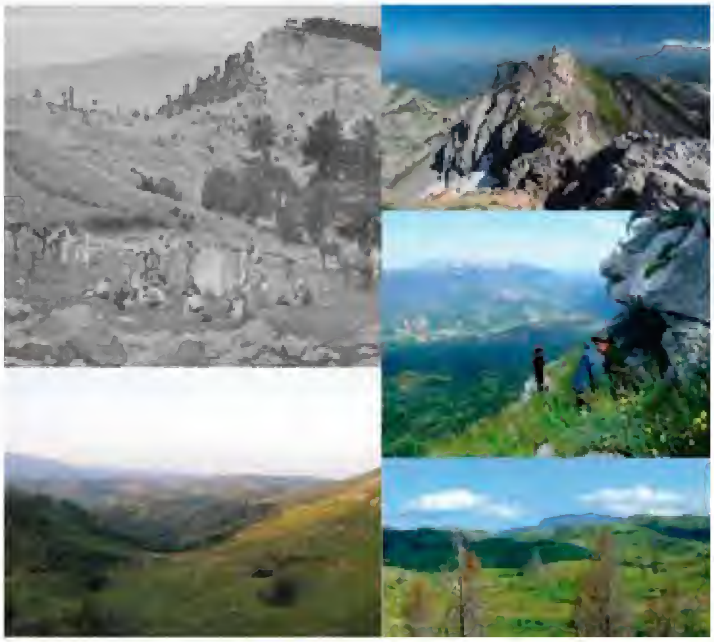
Figure 3. The Shënt Mts. 110 years ago and now. Black and white photo is an illustration from Sturany's travelogue from 1905.

Our expedition in 2014

Before starting this project the majority of the known *Montenegrina* taxa were already available for DNA analysis (as recently collected and alcohol-stored museum lots). Thus, during the project's field campaign we aimed to obtain only the few missing taxa, among others, the enigmatic *M. apfelbecki*.

Our 10-day-long field trip started from Budapest. Participants in the expedition were Zoltán Erőss (HNHM) and Zoltán Fehér (NHMW), malacologists; Jozef Grego, malacologist and speleologist; his son, Maroš Grego, responsible for photo documentation during the trip; and Dorottya Angyal (HNHM), speleobiologist (Fig. 4). As the type locality of *M. apfelbecki*, as well as most of the other planned collecting sites, could be reached only on rugged backcountry roads, the 4WD Toyota Hilux of the HNHM was our indispensable companion (Fig. 5).

Figure 4. Zoologists of the expedition, (Tërthorë pass).

Figure 5. Night shelter in Montenegro and the Hilux, our 'best friend' during the trip.

Figure 6. Prokletije Mts., Tërthorë pass: one of the most beautiful places in Albania.

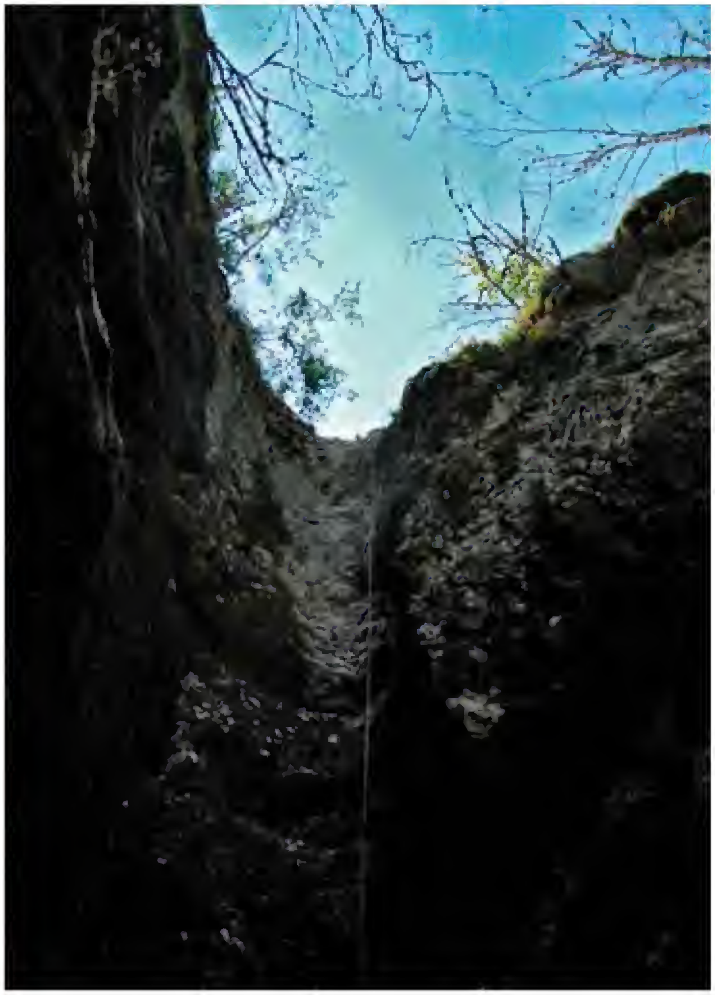

Figure 7. Entrance to the newly discovered 'Strawberry Cave' in Shënt Mts.

Figure 8. Double curse – double tire puncture far away from civilization.

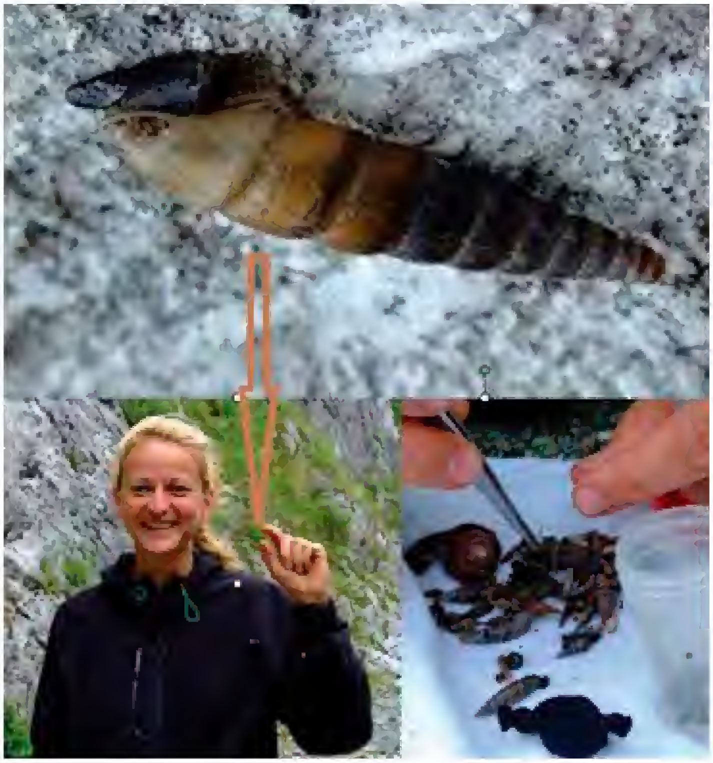

Figure 9. First *Montenegrina* specimen collected by the expedition in the Tropojë Gorge, north of Tropojë village (northern Albania).

We reached Albania from the north, through Montenegro. After a short stop at the stunning Thertorë pass (Prokletije Mts., Fig. 6), we proceeded to the plateau of the Shënt Mts., where we stayed for three days and checked several sites that seemed suitable habitats for rock-dwelling snails (Fig. 3). We found rare and endemic gastropod species, like *Napaeopsis merditanus* (Sturany, 1907) and *Cochlostoma georgi* (A. J. Wagner, 1906), but despite our efforts, we could not manage to find any *Montenegrina* specimens. We discovered a previously unknown vertical cave on the plateau and collected some noteworthy cavernicolous macroinvertebrates from its walls and wooden debris (Fig. 7). Continuing our misadventure, we suffered a double tire puncture in the mountains, a couple of hours walk from any inhabited settlement (Fig. 8). Due to a very helpful local family we finally managed to fix the car and get down from the mountain. The main goal of the expedition – to find *M. apfelbecki* – seemed to be a failure and we already had more than a half-day delay. Therefore we had to strictly adhere to the schedule for the rest of the trip. We tried our luck in Kosovo, in the Bistrica valley, the type locality of *Montenegrina janinensis sporadica* H. Nordsieck, 1974, near a monastry closely guarded by the KFOR military legion. We were unsuccessful again, the desired subspecies remained elusive. Our luck finally turned only on the fifth day of the trip, when we discovered a new *Montenegrina* species in the vicinity of Tropojë in the gorge of the Tropojë Creek (Figs. 9, 10). We then headed south for some interesting sites in the Shpat, Kurveleshi, Kendrevicë, Lunxherisë, Nemerçkë, and Vallamarë Mountains. Our last campsite was on the shore of Lake Ohrid (Fig. 17), which is the oldest and one of the most spectacular lakes in Europe, hosting a large number of endemic freshwater molluscs.

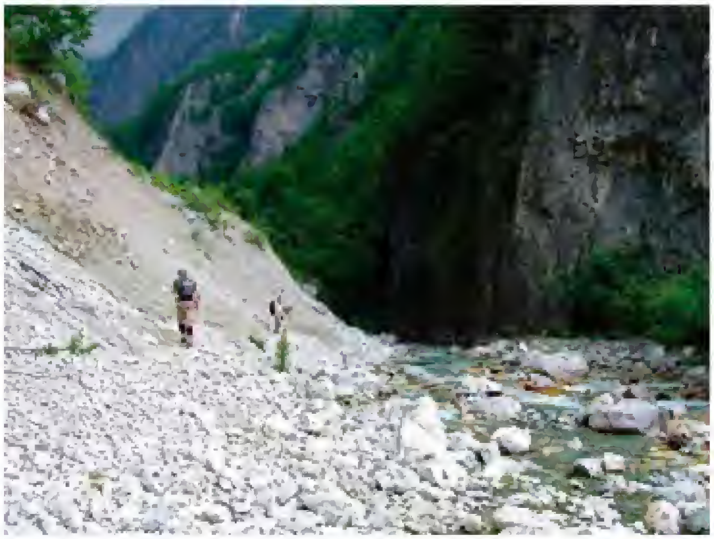

Figure 10. Enroute through the Tropojë Gorge (northern Albania), the site of the new *Montenegrina* species.

Figure 11. Despite great poverty, people in small villages of the Albanian mountains seem to live in harmony and satisfaction. This old man picked oregano for us in Fushë Bardlë village.

Albania is a biodiversity hotspot for not only gastropods, but other groups as well (Fig. 16). We collected numerous millipedes, chilopods [centipedes], crustaceans, freshwater insects, harvestmen, beetles, and other invertebrates, which now enrich the collections of the NHMW and the HNHM.

The duality of the crowded cities with all of their technical achievements and the untouched nature of the mountain areas with their modest, near-natural inhabitants assigns a unique atmosphere to Albania (Figs. 13, 14, 15), making it a great adventure and chance to meet local people with their unusual customs and history (Figs. 11, 12).

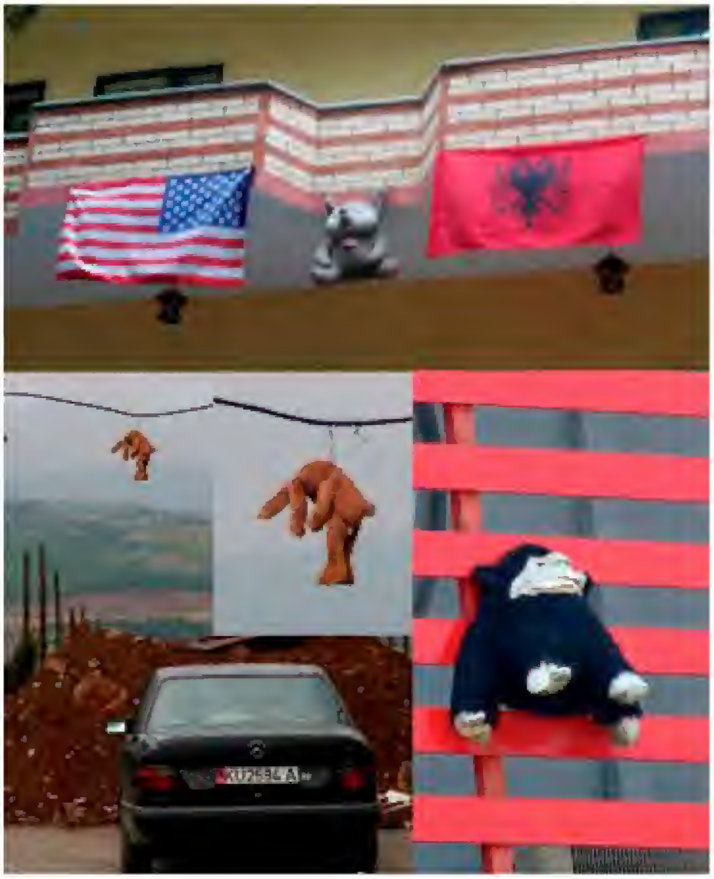

Figure 12. According to Albanian superstition, hanging puppets on windows or doors helps to keep away wicked ghosts, called 'vojtans'.

Figure 13. Civilization has yet to touch some of the mountain ranges of Albania, preserving them in near natural condition.

Figure 14. Living as they have for centuries, in many Albanian villages breeding of goats for milk and meat is still practised.

Figure 15. Mules are extensively used in everyday life in Albania.

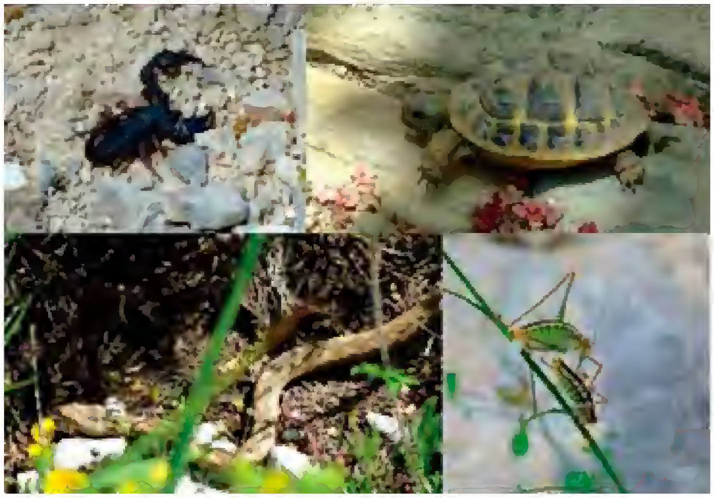

Figure 16. Remarkable creatures of our trip. Scorpion (*Euscorpius* sp.), Hermann's tortoise (*Testudo hermanni*), long-nosed, horned, or sand viper (*Vipera ammodytes*) and bush crickets (*Poecilimon jonicus*). The venomous but not overly aggressive long-nosed viper is protected.

Figure 17. Lake Ohrid, the final station of our journey.

"Resurrection of the mummies" – extracting DNA from 110 years old samples

Our previous material, together with the material collected during this field trip, enabled an almost comprehensive molecular phylogenetic reconstruction, making the absence of *M. apfelbecki* especially disappointing. In utter desperation we tried another way, attempting to extract DNA from the almost 110 year-old syntype specimens kept in the Natural History Museum in Vienna.

Whether and how DNA is preserved in museum-stored materials depends on how these animals were dispatched and preserved. Fortunately, Buljubasić collected a large sample, including several living specimens. In some of the shells we found desiccated bodies coiling around the columella. This made us believe that the samples were well-ventilated after collecting and that the animals had slowly mummified after an aestivation period. This gave us hope that we would be able to extract usable DNA after 110 years.

We applied the method of Thomsen et al. (2009) optimized to gastropods by Páll-Gergely et al. (2015). DNA yield and quality was tested by agarose gel electrophoresis, indicating that we got a large amount, but of highly fragmented, DNA. After some unsuccessful attempts to amplify other standard DNA markers from the extracts, we finally got positive result with a short fragment of the 16S rRNA gene. This sequence helped us to approximate the position of this species in the phylogenetic tree, and with the DNA knowledge of the presumed relatives, we designed internal primers for the widest used barcoding marker, the subunit I of the mitochondrial cytochrome c oxidase (*COI*) gene. Internal primers were designed based on sequences of related taxa, in the way that three overlapping sections of 230–250 base pairs were defined by three primer pairs. All three of these sections were successfully amplified and sequenced, and then, like the pieces of a puzzle, they were fit together. *COI* showed (reinforcing what the short 16S fragment indicated) that the closest relatives of *M. apfelbecki* are far in the south, in Greece, and *M. apfelbecki* is not conspecific with any of the previously presumed "*M. apfelbecki*" subspecies in Northern Albania.

Although a lot of knowlegde has been gained recently, there is still information missing. For example, it is not known where the species lives within the Shënt Mts., nor if it still exists. Another conundrum is how it got there in the first place.

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Photos: Dorottya Angyal, Zoltán Fehér, Jozef Grego, & Maroš Grego

Land Snail Fauna of the Sukolilo karst in Java (Indonesia)

Ayu Savitri Nurinsiyah

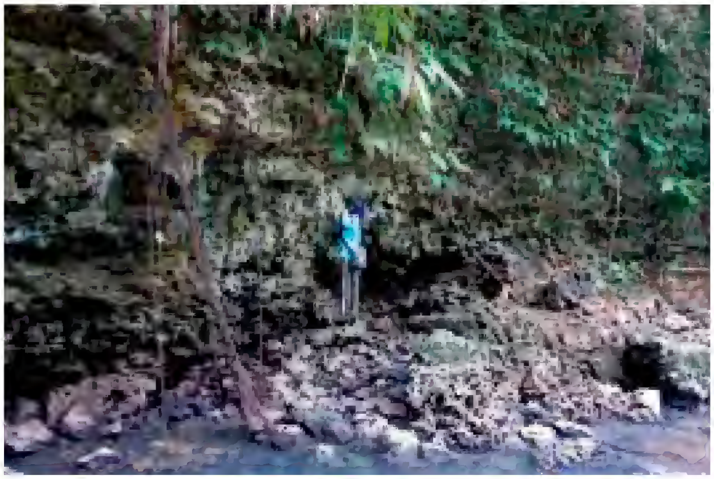
Karst Sukolilo is situated in the northern Tertiary zone of Java, Indonesia, which was formed in the Miocene to Pliocene (Balázs, 1968). It covers a 194.72 km^2 area in the northern part of Central Java, mainly in Grobogan and Pati Districts. The karst area comprises many hills (>10 hills/km^2) ranging from 61-530 m above sea level (Ruswanto et al., 2008; Wacana et al., 2008). There is an urgent need for a survey of the land snail fauna of that area because of a threat by limestone mining.

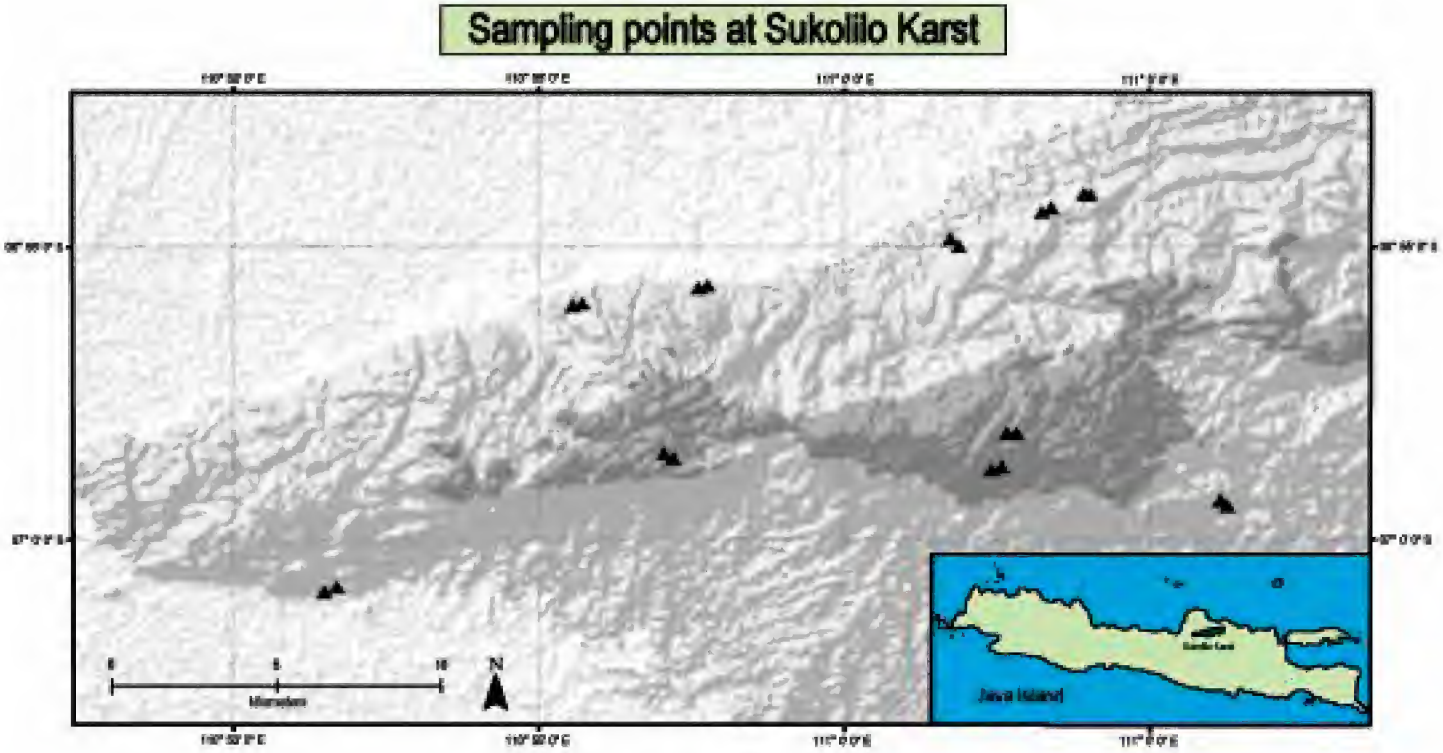
Sukolilo karst area in the distance. Photo by author.

This survey for land snails in Sukolilo was conducted in August 2014. My aim was to investigate the land snail species richness and composition within the karst area. I randomly selected 20 plots of 10 m x 10 m, the most distant plot was 27 km (see map). Living slugs and snails as well as their empty shells were collected by two researchers for one hour at each plot. In addition, a total of 100L (5L from each plot) of soil and litter samples were sampled, dried, sieved and sorted.

In total, 1,123 land snail specimens were collected during the field work. The specimens belong to 13 families, 25 genera, 33 species, and 2 subspecies. The number of species found in each plot ranged between 5 to 18 species, and 14 to 137 specimens. Euconulidae (27%) and Camaenidae (24%) were found to be the most abundant in the area. The ratio of prosobranch to pulmonate species found in the area was 1:11. One species is a new record to Java, *Nesopupa novopommerana* Rensch, 1932. There are four endemic species (*Amphidromus filozonatus* (von Martens, 1867), *Amphidromus heerianus* (Pfeiffer, 1871), *Japonia convexum* Möllendorff, 1897, *Gyliotrachela fruhstorferi* (Möllendorff, 1897))

(Above): Lowo Cave, Sukolilo; photo by author. (Below): Ngesong Cave, Sukolilo; photo by Handoko. Many such caves have formed throughout this limestone formation.





Plot near Watu Payung, Sukolilo; photo by author.

and one endemic subspecies (*Alycaeus crenilabris crenilabris* Möllendorff, 1897). We found the highest number of land snail species and abundance on the soil surface and in the top soil, whereas the fewest species were found on dead wood.

Tropical limestone areas are rich in land snail species and, in a taxonomic sense, are among the least studied in the world (Wong et al., 2001). Karst Sukolilo is inhabited by diverse fauna (Rahmadi and Wiantoro, 2007; Widi, 2014). The current preliminary investatigon of terrestrial molluscs in Sukolilo karst revealed 17% of the total land snail species known in Java. The number is slightly lower compared to Mt. Ciampea (West Java) with 34 species (18%; Nurinsiyah, unpublished), which also suffers severe limestone quarrying. The species richness is also lower compared to South Malang karst (East Java) with 55 species (29%) (Nurinsiyah et al., 2015). Although the species richness in Sukolilo karst is lower than the other two sites, the land snail species diversity index shows a rather high point — 2.88.

Karst regions usually contain high numbers of endemic land snail species, many of which are restricted to limestone habitats because of their high calcium requirements and low dispersal capability (Schilthuizen, 2004; Clements et al., 2006). Small range sizes and low dispersal capabilities make such land snail species extinction prone. The extinction risk in the area increases due to massive limestone quarrying. Until 2009, 12,000 tons limestone were quarried per year in the Grobogan district (http://bppt.grobogan.go.id/potensi/pertambangan.html) and many small cement companies still continue to quarry limestone in Sukolilo karst. The present study contributed to the scientific exploration of the biodiversity of Sukolilo karst. The gathered data will hopefully be useful for Sukolilo karst's conservation management.

Species List

Family Species

Achatinidae – *Achatina fulica* Bowdich, 1822
Achatinidae – *Allopeas clavulinum* (Potiez & Michaud, 1838)
Achatinidae – *Allopeas gracile* (Hutton, 1834)
Achatinidae – *Paropeas achatinaceum* (Pfeiffer, 1846)
Ariophantidae – *Parmarion pupillaris* Humbert, 1929
Camaenidae – *Amphidromus filozonatus* (von Martens, 1867)*
Camaenidae – *Amphidromus heerianus* (Pfeiffer, 1871)*
Camaenidae – *Landouria ciliocincta* (Möllendorff, 1897)
Camaenidae – *Landouria rotatoria* (Von Dem Busch, 1842)
Camaenidae – *Landouria winteriana* (Pfeiffer, 1841)
Charopidae – *Discocharopa aperta* (Möllendorff, 1888)
Charopidae – *Philalanka nannophya* Rensh, 1932
Cyclophoridae – *Alycaeus crenilabris crenilabris* Möllendorff, 1897**
Cyclophoridae – *Cyclotus* (*Pseudocyclophorus*) *discoideum* G.B. Sowerby I, 1843
Cyclophoridae – *Cyclophorus perdix perdix* (Broderip & G.B. Sowerby I, 1830)
Cyclophoridae – *Japonia ciliocinctum* (von Martens, 1865)
Cyclophoridae – *Japonia convexum* Möllendorff, 1897*
Cyclophoridae – *Leptopoma perlucidum* (de Grateloup, 1840)
Diplommatinidae – *Diplommatina nevilli* (Crosse, 1879)
Dyakiidae – *Elaphroconcha javacensis* (Férussac, 1821)
Euconulidae – *Coneuplecta microconus* (Mousson, 1865)
Euconulidae – *Microcystina chionodiscus* Vermeulen, 1996
Euconulidae – *Microcystina gratilla* Van Benthem-Jutting, 1950
Euconulidae – *Microcystina sinica* Möllendorff, 1885
Euconulidae – *Liardetia convexoconica* (Möllendorff, 1897)
Euconulidae – *Liardetia dolium* (Pfeiffer, 1846)
Euconulidae – *Liardetia scandens* (Cox, 1872)
Euconulidae – *Queridomus fimbriosus* (Quadras & Möllendorf, 1894)
Helicarionidae – *Helicarion albellus* von Martens, 1867
Helicinidae – *Geophorus oxytropis* (Gray, 1839)
Valloniidae – *Pupisoma dioscoricola* (C.B. Adams, 1845)
Veronicellidae – *Semperula* spec.
Vertiginidae – *Gyliotrachela fruhstorferi* (Möllendorff, 1897)*
Vertiginidae – *Nesopupa malayana* (Issel, 1874)
Vertiginidae – *Nesopupa novopommerana* Rensch, 1932

* species endemic to Java
** subspecies endemic to Java

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Spirals in Time: The Secret Life and Curious Afterlife of Seashells by Helen Scales

Bloomsbury Publishing, London & New York
2015, 304 pp., 33 color photos
ISBN (hardback) 978-1-4729-1136-0 ($22)
ISBN (paperback) 978-1-4729-1138-4 ($12.50)
ISBN (ebook) 978-1-4729-1137-7 ($9.99)

Avoiding any suspense, I will begin this review with the statement that I really, really like this book. Helen Scales has done far more than gather an eclectic collection of facts, trivia, tales, and natural history about shells. Eclectic? You bet. This book covers the gamut from how shells are constructed and what the structure means for the continued existence of the species, to how humans have used shells in religion and commerce and abused shells with over-consumption, to the individuals who have studied and classified shells and the ones who used shell products for commerce and art. Throughout each subject (and there are hundreds spread through the ten chapters) the writing displays the author's expertise (she is a marine biologist with a PhD), her fascination with shells, and her comfortably dry sense of humor. A reader new to the world of shells will find the writing clear, concise, and most importantly, easy to understand – and yes, often lightly spiced with a bit of humor. Fun to read. A professional malacologist will appreciate those features, plus the wealth of detail and science and the incredible breath of coverage. And while those of us involved for some time in the world of shells will recognize the facts, tales, events, and personages in this book, I dare say, even the most knowledgeable will note a new revelation or two, or appreciate a new take or approach to a given subject. There is an amazing amount of material in this small book and, while it is not a picture book, the author provides some very interesting and well-chosen color images to illustrate some of what is presented in the text.

Spirals in Time takes the reader on several investigative journeys. If asked, "What is sea-silk?" I would guess the majority of shellers would respond that it is the byssus from pen shells – the threads that hold the shell to the substrate. Most of us would also relate how this was the basis for ancient writings of a "golden cloth" and probably the "golden fleece." This is, however, a complex story with centuries of incorrect translations of Hebrew and Greek. In this book you will find the 'real' story, including the recent investigation by Daniel McKinley ("*Pinna* and her silken beard: a foray into historical misappropriations", *Ars Textrina* 29: 9-223, 1998). It is an amazing tale. Similarly, from the writings of Pliny the Elder, to the tomes of the Sowerbys and Reeve, to modern day research of Philippe Bouchet – it is all here. All of us know about the use of the money cowrie (*Monetaria moneta* (Linnaeus, 1758)) as hard currency, but did you know how and who instigated the use of the golden-ringer (*Monetaria annulus* (Linnaeus, 1758)) as currency? Read this book. An entire chapter is devoted to the fascinating natural history of *Argonauta*. Another to the attempts to explain shell structure through mathematics. Yes, yes, the "golden spiral," but there is much more. There are also none-too-subtle hints about the dark future of mollusks as the world ignores global warming and sea acidification. The last chapter is, "The Sea Butterfly Effect." Her hunt for and description of pteropods ('sea butterflies" and 'sea angels") is a tremendous read, but as these tiny graceful creatures may be the first to go with a changing climate, it is also a bit disturbing. Finally, the author includes a bibliography for each chapter, plus a useful index. I started this review with the hardcover version of the book, but recently bought the ebook version as well. I want this data available on my Kindle for more immediate access. This is a gem of a book – buy it, read it, enjoy.

Sea slug thieves: A nudibranch defensive strategy

Jessica Goodheart

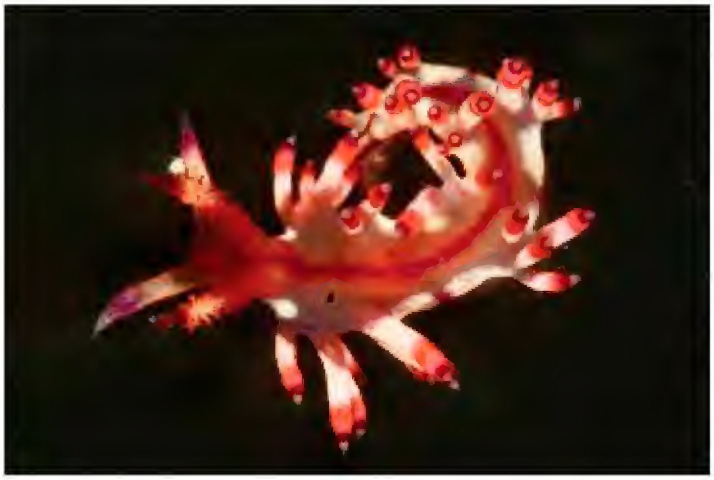

Figure 1. *Flabellina rubrolineata* from Madang, Papua New Guinea. Photo by author.

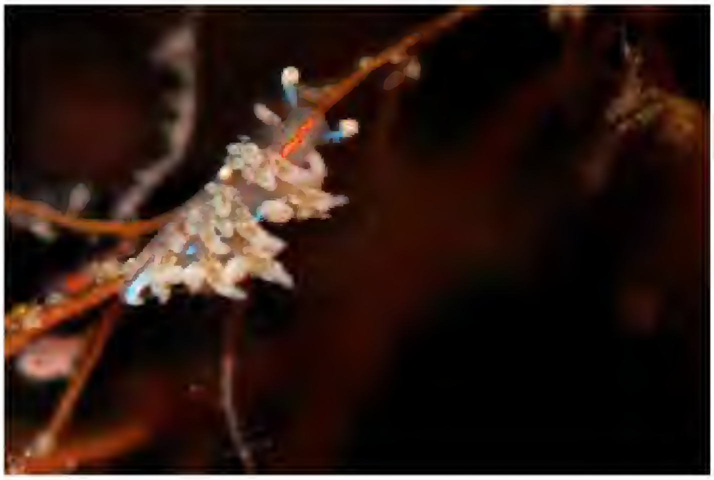

Figure 2. *Dondice occidentalis* on a hydroid from West Palm Beach, Florida, U.S.A. Photo by author.

Nudibranchs, a shell-less clade of gastropods, have evolved bright, striking color patterns over millions of years. These particular slugs are especially popular with divers and underwater photographers due to their interesting color patterns. These beautiful color patterns are useful for more than just an eye-catching photo (Figure 1). Bright colors often deter predators, warning them that these nudibranchs are armed with toxins and other defenses that could cause harm. This method of alerting potential predators using bright colors is called aposematism (Rosenberg, 1989; Tullrot, 1994). Within Nudibranchia, several types of defensive strategies exist to counterbalance the loss of the protective shell. One apparent defense mechanism is found in a group of nudibranchs called aeolids, that steal the defensive abilities of the animals they feed on - jellyfish, corals and others that sting (Figure 2; Greenwood, 2009).

Jellyfish, sea anemones, hydroids and their Cnidarian relatives sting predators and capture food with special cells called cnidocytes, which line their tentacles. These cause the pain, rashes and swelling associated with jellyfish stings by discharging small, venom-filled barb-like structures called nematocysts into their predators' tissue (Oppegard et al., 2009). Nematocysts are extremely effective in deterring most predators of cnidarians, but some predators, like aeolid sea slugs, are able to not only defeat the venomous weapons, but also use these defenses to their advantage.

When aeolids feed on corals, anemones and hydroids, the first thing they have to do is prevent the stinging organelles from firing. They seemingly do this using their mucus: certain chemicals are present that protect them from getting stung (Greenwood et al., 2004). Once ingested, some unfired nematocysts are excreted as waste, but other nematocysts are passed through the branched digestive tract to the cerata of the animal, which are dorsal appendages that can be released if the slug perceives that it is in danger. Each ceras contains a diverticulum of the digestive tract. Once the nematocysts reach the ceras, they are confined within a sack that houses multiple nematocysts, called a cnidocyst. The cnidocyst then passes into the cnidosac at the tip of the ceras through a sphincter, where it remains until the nematocysts are released (Conklin and Mariscal, 1977).

The release of nematocysts is dependent upon non-motile, sensory cilia on the external surface of the ceras. Once the signal is received, they are extruded through the cnidopore. When the nematocysts reach the external environment, they are then fired from their capsule (Conklin and Mariscal, 1977). Figure 3 shows an illustration of the inside of a single ceras, and Figure 4 is a stained histological section of a ceras from the aeolid *Aeolidia papillosa*.

Though we know that aeolid nudibranchs steal and store these nematocysts, how do we know that they use the nematocysts to defend themselves? The simple answer is that we don't know for sure. Aeolid slugs will release the stored stinging organelles when they are threatened, and the nematocysts do sting and damage predators - so it is likely that the stolen nematocysts are used for defense (Aguado and Marin, 2007; Edmunds, 1966) peregrina. There is difficulty, however, in establishing the effect of nematocysts from

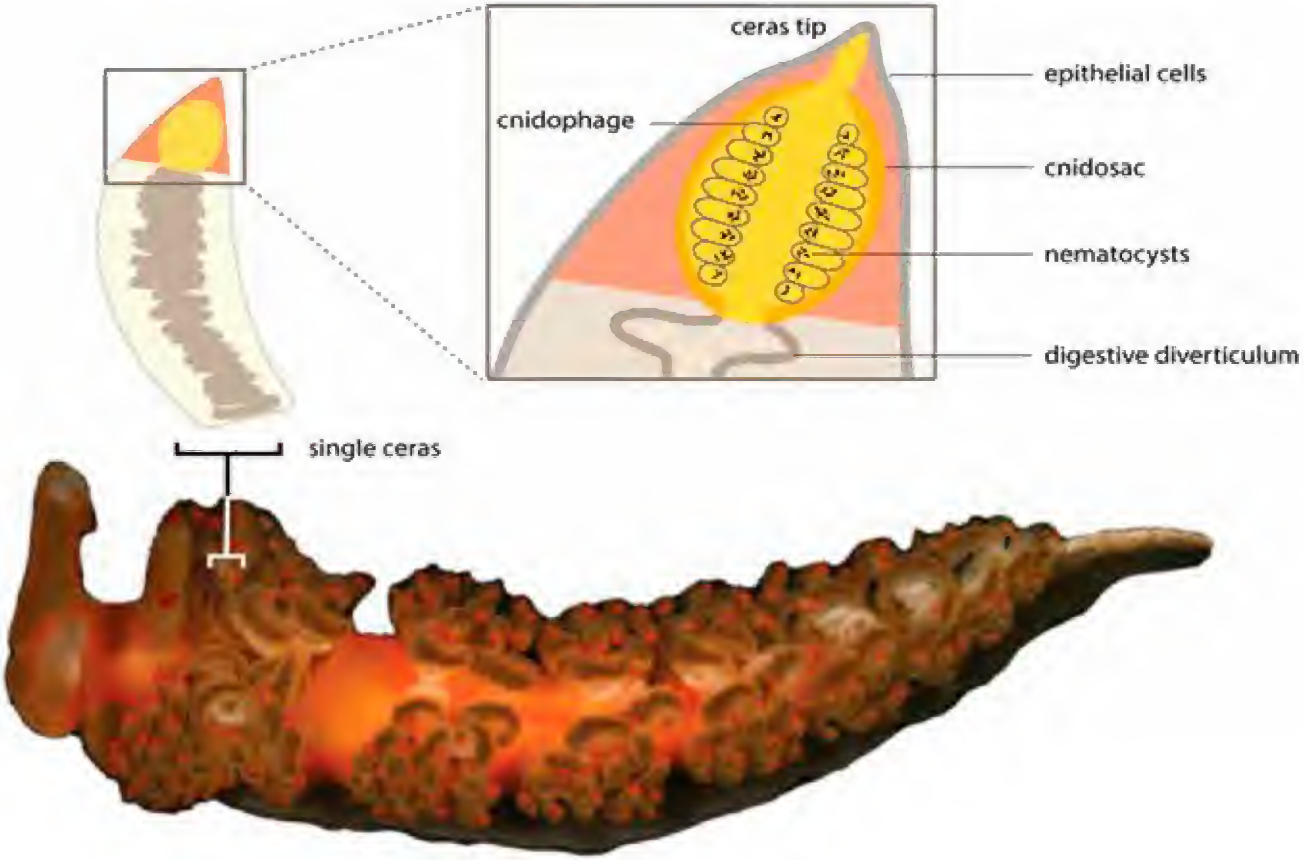

Figure 3. Illustration of the internal anatomy of an aeolid ceras (plural: cerata).

the cerata on predators, so multiple authors have suggested that we cannot yet know for sure whether or not they serve a defensive purpose (Edmunds, 2009; Marin, 2009; Penney, 2009). In a particular case where aeolid nudibranchs feed on corals known to have less effective defensive cells, the nudibranchs have cnidosacs that no longer function. In the genus *Phyllodesmium*, species have switched to Octocorallia as a food source and do not obtain nematocysts from their food (Bogdanov et al., 2014). This tells us that effective stinging organelles are likely used in the nudibranchs, but they are not necessary for the survival of all aeolids.

As a PhD student at the University of Maryland and a graduate fellow at the Smithsonian National Museum of Natural History I am studying the evolutionary processes that have allowed nudibranchs to steal and store cnidarian nematocysts. In order to do so, I need to complete two main parts. First, I have to generate a phylogeny for the group, which is a way of mapping the evolutionary relationships between families, genera, and species within Cladobranchia, the group containing aeolids. I am currently doing this using molecular sequence data. Second, I will need to map anatomical and histological information associated with the theft of nematocysts on that evolutionary tree. In this way, I will hopefully be able to see how the evolution of this ability occurred. Certainly more research into the specific mecha-

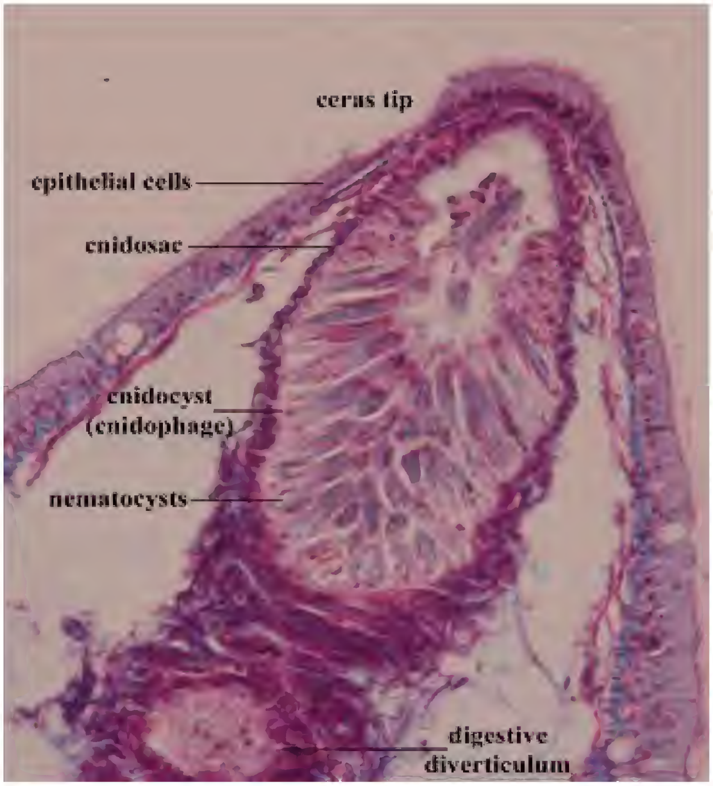

Figure 4. Stained longitudinal section of a ceras (labelled) from *Aeolidia papillosa*.

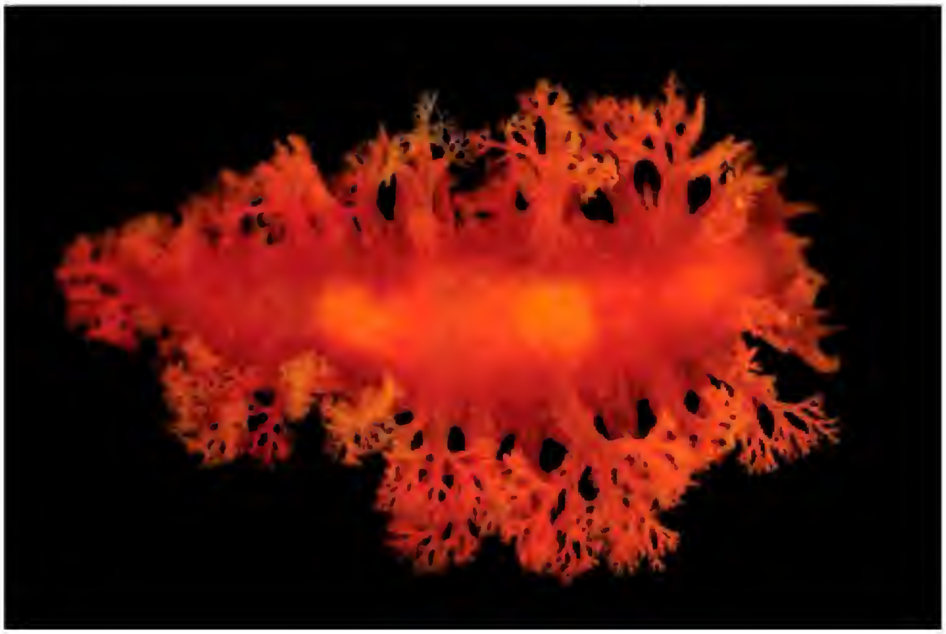

Figure 5. *Tritoniopsis frydis* from Florida, U.S.A. Photo by author.

nism of the stolen stinging cells is needed, but learning more about these colorful sea slugs' evolutionary history will show us how aeolids acquired this unique defensive strategy and where it came from.

The funding that I received from the Conchologists of America has been an integral part of my initial research. With it, I was able to collect samples of aeolids and closely related species (Figure 5) from Florida and develop a histological procedure for identifying nematocysts and other, related structures within the cerata. From there, I will be able to create a database of histological and anatomical data for members of this group, which I will use to continue my research. Thank you for the opportunity to study these amazing creatures!

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COA 2015 GALA IN THE GLADES (and it was)

Anne Joffe, convention coordinator

The July 12-18, 2015, 'COA Gala in the Glades' meeting was held at Bonaventure Resort, Weston, Florida. The two-day pre-meeting field trips attracted many members and featured tours of the Flamingo Botanical Gardens, Everglades Wildlife Sanctuary, behind the scenes at a local university, snorkeling trip to Peanut Island, fossiling, Everglades airboat ride, a trek to see our Florida endemic Everglades snail (*Liguus fasciatus*), and the evening dinner boat ride on the *Jungle Queen*, complete with variety show.

The meeting opened at 1:00 pm on Tuesday and featured a local historian who related tales of early Broward County. After a welcome by COA Convention Co-Chair, Nancy Galdo and COA President, José Leal, programs were underway. Carole Marshall did an outstanding job of getting varied and informative programs that featured many "guest" speakers not usually heard at our meetings. These included: Jerry Harasewych, Paula Mikkelsen, Gene Coan, and several local speakers. Each program was informative and made for an interesting meeting.

The Everglades welcome party was held that same evening and, as requested on our invitations, some came dressed for a trip into the Everglades. Many wore designed hats for the occasion and the committee selected several hats to be entered into the competition, with the audience voting by applause for the three prizes awarded. It was a fun evening, complete with alligator bites and conch ceviche – a great way to get our annual gathering underway.

Wednesday was spent listening to programs and bidding on excellent silent auction items. That same evening was the Oral Auction, with everyone receiving a catalog of outstanding color pictures of the goods. Many thanks to Kevan and Linda Sunderland for their excellent photography of the shells. Lively bidding with Hank Chaney and Jim Brunner as auctioneers helped make this a very successful fundraiser.

Hats designed to scare snails into near immobility for ease of collection. From the left: Best of Show – Anne Joffe, Most Original – Sheila Neugent, Funniest Hat – Caryln Morgan.

Thursday brought another great day of programs, followed by the annual business meeting and the presen-

Jim Brunner (left) and Hank Chaney (right) kept the audience involved as they auctioned off over 100 shells and shell items. Moneys go to the COA grant program.

Each dinner guest got a one-of-a-kind shell alligator made by Bob Pace.

The always popular bourse – common to rare shells from around the world and lots of buyers looking for that perfect shell or a great deal.

John and Cheryl Jacobs receive their much deserved *Neptunea* Award from Harry Lee.

Kevan and Linda Sunderland were also shown the appreciation of COA by the award of the *Neptunea*, again presented by Harry Lee.

Carole Marshall did an outstanding of lining up informative programs and then was lucky enough to win the raffle prize of about $2,000 worth of autographed books.

tation by the Chicago shell club showing the highlights of the 2016 meeting. It was announced that the 2017 meeting would be held in Key West, Florida. Since there is no shell club to host, many of our members have come forth to volunteer for key positions and to just help in any way they can. If you are interested in joining in this "Keys Committee," please let me know. The Chair will be Greg Curry, a local Conch, and he was the chair in 1980, the only other time we have met in Key West.

The banquet Thursday evening was a wonderful affair, the dinners were great, and each guest received a chocolate alligator made by James Redding, as well as a one-of-a-kind shell alligator made by Bob Pace (who spent well over three months making them for us, when he was not identifying and labeling silent auction shells).

The *Neptunea* Award was presented by Chair, Harry Lee. This year the recipients were two couples:

Kevan and Linda Sunderland were recognized for their many years of articles and shell centerfolds for the *American Conchologist*.

John and Cheryl Jacobs were recognized for their years of assisting with various COA activities, such as silent auctions, numerous and varied shell club shell shows, and helping as official convention photographer these many years.

Both are certainly deserving couples and both couples were obviously surprised.

Our program for the evening was given by Kevan Sunderland, who has become a well known and accomplished photographer of birds and wildlife. His presentation of the wildlife of the Everglades was spectacular and featured some almost unbelievably gorgeous images of Florida wildlife. It was a wonderful way to end this evening.

Friday morning, the club rep breakfast was held with 22 club reps attending. As usual, the main subject was how to attract new and younger members to our clubs.

At 1:00 pm the doors opened for the 2015 Dealers Bourse, well represented by dealers from Australia, Philippines, Vietnam, Taiwan, Hawaii, Italy, China, and the USA. The bourse continued on Saturday and then it was time to say goodbye to another wonderful COA convention.

A huge thank you to Nancy Galdo and Linda Sunderland, the hard working co-chairs, and to the Broward club members who went beyond the call of duty.

See you all in Chicago.

Tentative Convention Schedule

Monday, July 25
Field Trips

Tuesday, July 26
Early Registration, Field Trips

Wednesday, July 27
Registration, Opening Ceremonies, Programs, Silent Auctions, Welcome Party

Thursday, July 28
Programs, Silent & Oral Auctions

Friday, July 29
Programs, Silent Auctions, Banquet

Saturday, July 30
Silent Auctions, Bourse

Sunday, July 31
Bourse, Enjoy Chicago

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American CONCHOLOGIST

Quarterly Journal of the Conchologists of America, Inc.

CONCHOLOGISTS OF AMERICA, INC.

In 1972, a group of shell collectors saw the need for a national organization devoted to the interests of shell collectors; to the beauty of shells, to their scientific aspects, and to the collecting and preservation of mollusks. This was the start of COA. Our membership includes novices, advanced collectors, scientists, and shell dealers from around the world. In 1995, COA adopted a conservation resolution: Whereas there are an estimated 100,000 species of living mollusks, many of great economic, ecological, and cultural importance to humans and whereas habitat destruction and commercial fisheries have had serious effects on mollusk populations worldwide, and whereas modern conchology continues the tradition of amateur naturalists exploring and documenting the natural world, be it resolved that the Conchologists of America endorses responsible scientific collecting as a means of monitoring the status of mollusk species and populations and promoting informed decision making in regulatory processes intended to safeguard mollusks and their habitats.

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In memoriam:

Germaine Leclerc Warmke

(see editor's comments)

Front Cover: ***Xenophora conchyliophora*** **(Born, 1780) as photographed by COA member Ellen Bulger just before hurricane Joaquin hit Eleuthera, Bahamas. This is perhaps her favorite shell and this image certainly gives some indication why.**

Back Cover: ***Hexaplex nigritus*** **(Philippi, 1845), a painting by Kenneth Wye. You can see more of Ken's paintings and read his story on page 22. If you check your shell library, odds are pretty good you also have one or more of his books.**

Editor's comments: We end the year 2015 with what I hope are some unusual and entertaining articles, but first, the cover photos. The *Xenophora conchyliophora* on the front cover by Ellen Bulger is a superb representation of this unusual and varied family – a favorite group for many collectors. The back cover is a return to our depictions of shell art, this time an exquisite piece by Kenneth Wye (see his article and more art starting on p. 22). Next we travel Paris with Ed Nieberger and family in search of shells, fossils, and maybe a bit of French culture. Deborah Duval then offers up a couple of unusual findings from the Gulf of Mexico. She proves the value of the shell grit in the bottom of the bucket. David Campbell then aptly demonstrates why taxonomists often mumble to themselves, bringing to light why the conchological name-game is not for the faint-of-heart. I then offer up two reviews of books I think deserve a place on your bookshelf. The first is *The Secrets of Sand* by Gary Greenberg, Carol Kiely, & Kate Clover. A fun book with interesting facts and surprisingly beautiful photos. Next is *Nudibranchs Encyclopedia: Catalogue of Asia/Indo Pacific Sea Slugs* (2nd ed.) by Neville Coleman (revised by Gary Cobb & David Mullins). The best source for identification and general knowledge about this group of gastropods that can only really be collected with photographs. Next we have Kenneth Wye and a discussion of his shell art and a couple of now defunct London-based shell stores. This is followed by the first report of an invasive molluscan species, *Streptostele musaecola* in the USA, by Jochen Gerbert & Stephanie Clark. You can ask them about this in person if you go to the Chicago COA Convention. We then have a reminder by Harry Lee that it is time to nominate deserving shell-folks for the next award of The *Neptunea.* Next come the results of the 2015 Philadelphia and North Carolina Shell Shows. Finally, we have a few pages on the 2016 COA Chicago Convention. Whether you attend because of the camaraderie of friends, the excitement of shell auctions, the fascination of presentations, or the availability of common to rare shells at the bourse, Chicago looks to be an exciting venue.

Germaine Leclerc Warmke received a BS in biology from the University of Maine and an MS in genetics from the University of Rochester. She and her husband Harry, lived in Puerto Rico, for 19 years during which time she taught genetics and wrote *Caribbean Seashells: a guide to the marine mollusks of Puerto Rico and other West Indian islands, Bermuda and the lower Florida Keys* (1962). She moved to Gainsville, Florida, in 1964 and later to St. Augustine Beach, where she wrote *Exploring the Seashore.* Many of us have her Caribbean book in the shell bookcase. She was 94 when she passed away in August 2014.

A Shelling Trip to Paris

Edward Nieburger (photos by author)

Edited by Gayle and Braden Nieburger

April in Paris! Could it be true that this trip for my son's figure skating competition could also become an opportunity for shelling? "Mais oui, mais oui!" [But, yes, certainly!]

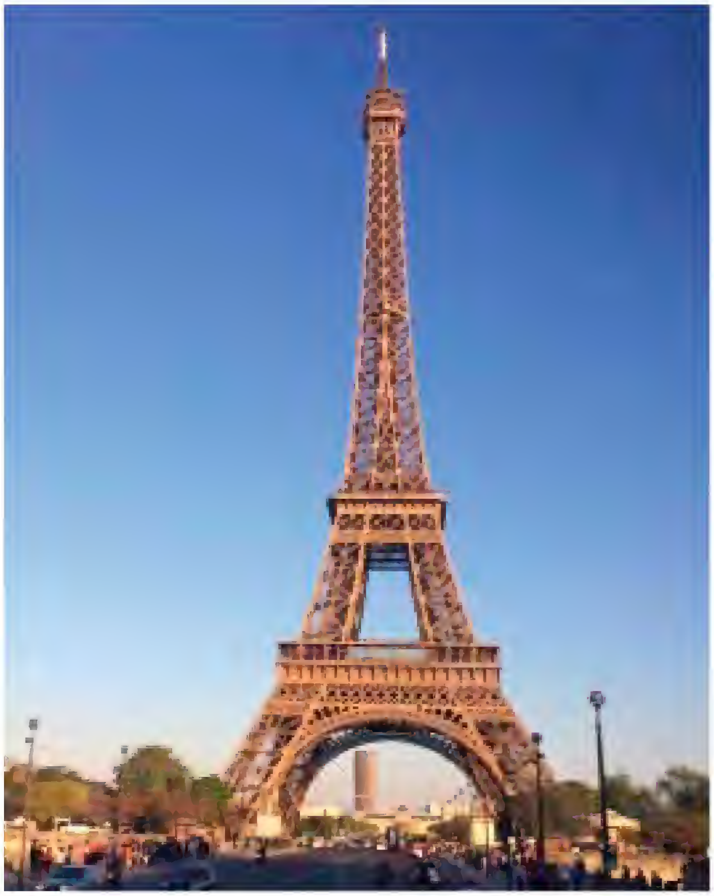
Bonjour, Paris! We began our week-long visit on April 21, 2015. Braden, Gayle, and I were part of a group of 59 Bostonians flying overnight via Air France Airways to Charles de Gaulle Airport, north of the city, to take part in the Nation's Cup, the biennial world competition for Theater on Ice. Our departure from Logan Airport in Boston was delayed for twenty-four hours due to a broken service-door-hinge. This meant that the first night of our trip was spent at the Marriott Hotel in Chelsea, Massachusetts, which was nice, but it was not Paris.

The Arc de Triomphe de l'Étoile [Triumphal Arch of the Star], at the western end of the Champs-Élysées, is an unmistakable symbol of Paris.

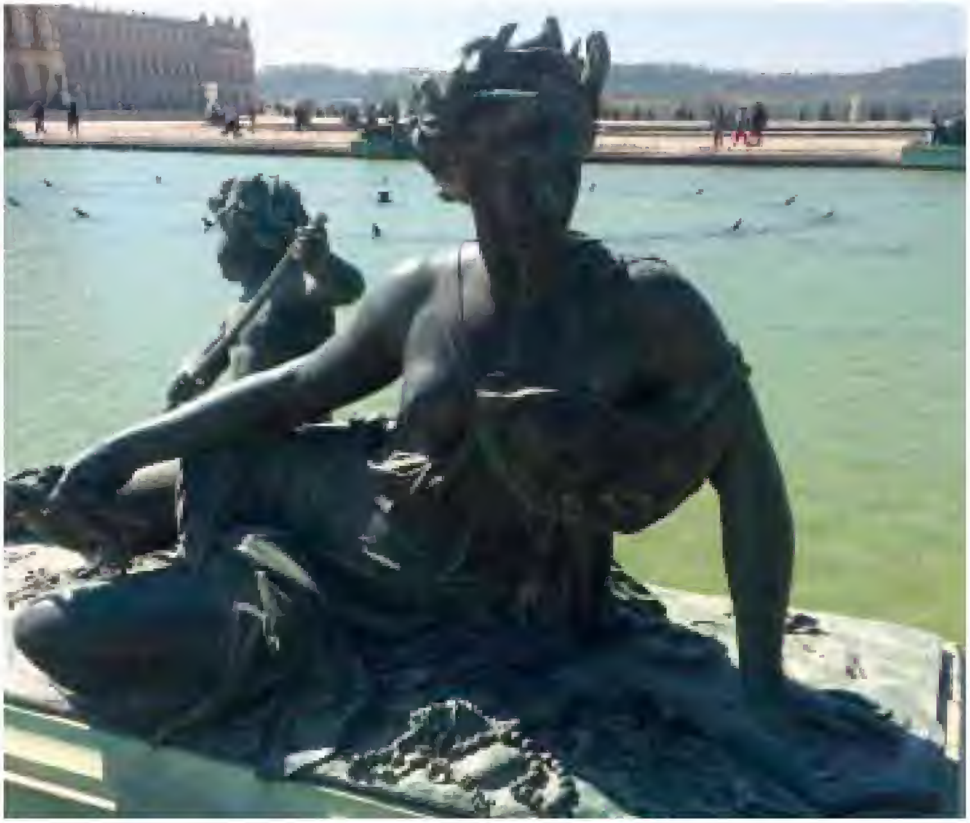
After the over-night flight the following night, we arrived in France and had what seemed like a two-mile hike with our carry-on luggage across the Charles de Gaulle Airport. We finally reached the baggage area to claim our checked bags. Eventually we were met by our bus to take us to our hotel in La Defense, a business area of Paris. We quickly checked-in and left our luggage before re-boarding the bus for a three-hour tour of the city. This was timed purposely to force us to stay awake and to get accustomed to Paris time, six hours earlier than Boston time.

Soon, our bus approached the Arc de Triomphe, which commemorates Napoleon's 179 victories in battle in the 1700s and where Nazi troops marched during World War II. Leading up to the Arche de Triomphe is the Avenue des Champs-Élysées, a wide street where the bicycle Tour de France concludes each August. The cafes with sidewalk tables are the stuff of legend.

The art and architecture of Paris is what first caught my attention. The buildings and statues were built largely in the 1600s and 1700s, during the reigns of Kings Louis XIV, XV, and XVI and are certainly one of the pinnacles of quality architecture of all time. These old buildings of Paris are quite a contrast to the new stainless steel, concrete, and glass high-rises in the La Defense area where our hotel was located. Kings Louis XIV, XV, and XVI spared nothing to create these lasting monuments, which put tremendous strain on the treasury and the taxpayers of their times. When



The Eiffel Tower, the iconic landmark of Paris.



Note the two Caribbean shells *Cymatium femorale* (Linnaeus, 1758), on this bronze cast in the 1600s.

the citizens complained, "We have no bread," they were told by "a great princess," "Let them eat cake!" It was not Marie Antoinette who said this, although it is often attributed to her. Marie Antoinette, wife of King Louis XVI, did pay the ultimate price by guillotine in 1793.

On day two, Wednesday, we visited the Chateau de Versailles palace southwest of the city, which was built over the three kings' reigns, 1682 to 1789. Although marble was used for most of the Versailles buildings, a great amount of limestone was also quarried during this time. As fossil collectors know, the "Paris Basin" is probably the richest concentration of marine shell fossils anywhere. Over 1,000 molluscan species were found in the limestone during that time! Versailles was successfully designed and built to be the most elaborate and extraordinary of all buildings in Europe. The most famous room, the "Hall of Mirrors," is where the European powers signed the peace treaty to end World War II. In the back of Versailles is a large reflecting pool surrounded by 15th Century bronze statues, with bronze seashells sprinkled around the edges of those statues. I noticed the Caribbean shell, *Cymatium femorale* (Linnaeus, 1758), which is labeled as having been cast in bronze in the 1600s, a century before the shell was officially described by Linnaeus.

In the afternoon, Gayle and I went to the central city to see the shell stores and the 400 book stalls along the Seine River. First, the shell stores, or what remains as remnants of shell stores in this day and age of Internet and bourse shell buying. Claude Nature, 32 Boulevard Saint-Germain, was receptive to us and willing to exchange their Paris fossils and world-wide marine shells for our Recent East Coast U.S. marine species (but not fossils). The manager told us about two other shell stores. The second store, Deyrolle, at 46 Rue de Bac, is the older of the two. We bought a fossil or two and a book on shell collecting in France. At both stores we were startled at the variety of nature objects, including a stuffed zebra and other stuffed tropical mammals and birds, butterflies, and other insects - all beautifully mounted. The third store was downtown and specialized in just fossils, but time did not permit us to get to that store, unfortunately.

Nearby, the Notre Dame Cathedral, on the "East Bank," was right across the river from these stores on the "West Bank." The old church with its extraordinary flying buttresses has fascinated me since the sixth grade. Along the West Bank of the Seine River, the book stalls, each two meters wide, had used books, magazines, old shell and other natural history prints, both originals and reproductions. We had the time to visit but a few of the dealers, but had a delightful time acquiring some souvenirs, all within sight of Notre Dame Cathedral.

That evening we went on the boat ride, Bateaux Parisians, for dinner and sightseeing on the Seine River, which twists back and forth through Paris. Champagne and wine flowed, and a several course dinner followed, all while we

Book stalls line the West Bank of the Seine River.

were cruising under dozens of bridges, many very old and architecturally just as beautiful as the buildings we passed along the way. The ride concluded at the site of a reduced-scale Statue of Liberty near the Eiffel Tower. Both this and the New York Statue of Liberty were built around a structure that was designed by the same Eiffel who designed and built the famous Tower.

The Louvre Museum was our destination on the third day. Our group had a guided tour of the museum, the home of the Mona Lisa and the Venus de Milo, among other magnificent works of art. The Mona Lisa, smaller than we had imagined, is safely ensconced behind very thick bullet-proof glass to protect it. Umbrellas are not allowed at the Louvre since an overeager visitor used his umbrella to point to the bottom of the painting and tore a hole in it.

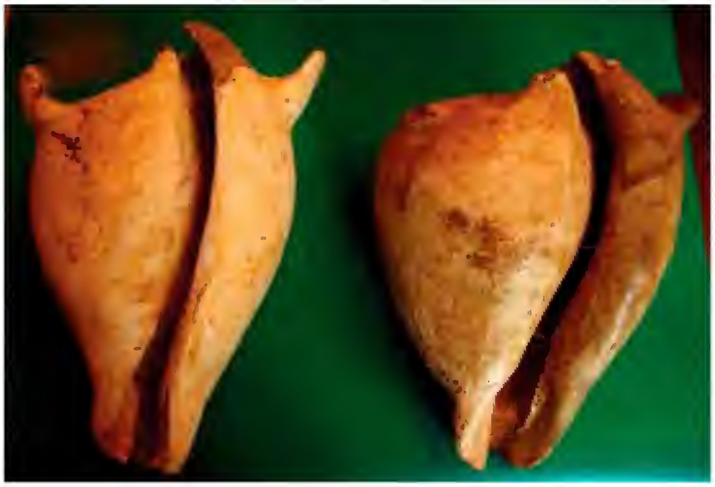
Thursday was also the day I had an afternoon appointment to visit Patrice Bail in south Paris. Patrice is a retired medical doctor and author of several journals on Volutidae, published by ConchBooks, of Germany. I was overwhelmed by Dr. Bail's French hospitality and his beautiful collection. Europeans love their color forms and Patrice is no exception, documenting distinct color forms from different regions of each species' range. For example: the *Amoria* volute varieties of Australia, where it appears that a few hundred miles allows a species to develop distinct color forms and even distinct species.

That evening Gayle and I wandered out of our hotel and found a little restaurant. It was an interesting experience as they offered bread, cheese, and sausage. Many different types of cheese and sausage were served in a basket. The basket had been pre-weighed. You cut off what you wanted and the basket is again weighed to get your cost. They also did something similar with the bottle of wine. You get a full bottle, but the cost is what you actually drink. The restaurants in the business district are open only during the week; closed weekends. Gayle was surprised and disappointed that the only restaurant that had escargot on the menu was the sidewalk café where we had lunch on our first day in Paris. She assumed it would be on every menu, so she chose to wait for a dinner out to make me taste snail! Ah, I am delighted that I escaped that treat!

Patrice Bail and Didier Debailleux were the two local collectors that the Paris shell club, Association Francaise de Conchyliologie, referred me to when I inquired about local collectors who might be willing to talk and perhaps trade shells. Didier Debailleux is a cowrie and fossil collector and invited me to visit on day four, which was Friday. A bit of a language problem on my part led me to the wrong Metro Station, but thanks to the cell phone of a clerk in a little patisserie [bakery], we were able to reconnect. The Paris Metro is an amazing, fast, and inexpensive way to get around Paris, but you do miss experiencing the traffic jams and sights that you can see from the much more expensive taxis. The Metro

The Claude Nature, 32 Boulevard Saint-Germain, had shells, fossils, and lots of other natural history objects. A closer look at the left-hand window shows, among other items, an ostrich egg, stuffed rabbit, and great-ape skull.

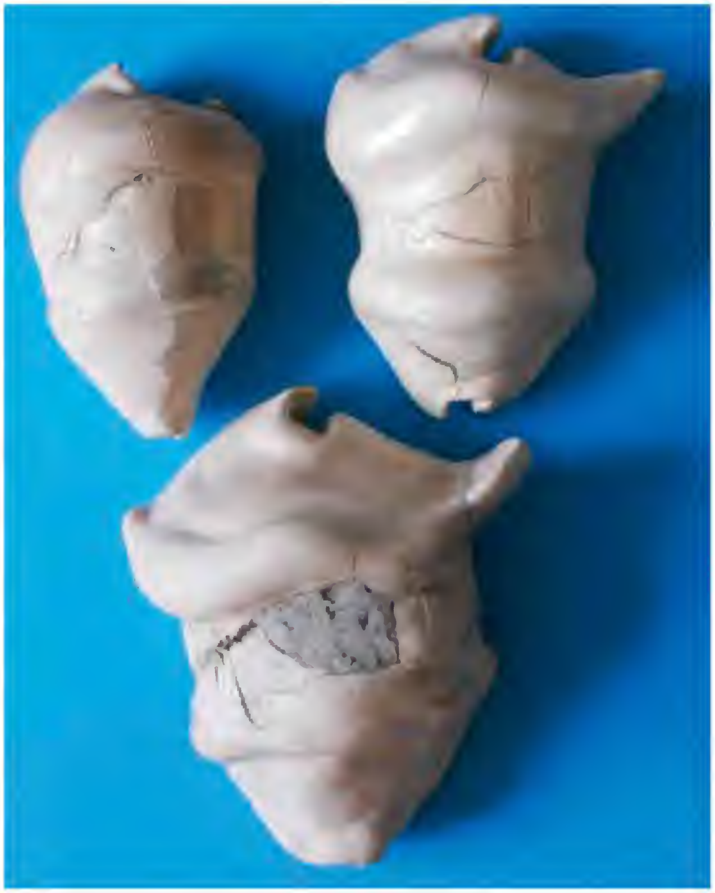
Russian musicians on the Paris Metro – same two songs.



Gisortia combii **(J. de. C. Sowerby in Dixon, 1850), is often listed as** *Ovula gisortiana* **Passy, 1859, but ICZN opinion 2107 (case 3220) published in 2007, retains the Sowerby name (originally as** *Cypraea combii***) and assignment to the Cypraeidae.**

Patrice Bail with a colorful assortment of scallops (*Pecten maximus* (Linnaeus, 1758) from offshore Normandy, France, and then from the Paris fish market.

Didier Debailleux with two large and oddly-shaped molds of Paris Basin fossil cowries (*Gisortia combii*).



Another unusual Eocene Paris Basin cypraeid fossil is *Gisortia* (*Vicetia*) *hantkeni* (Lefèvre, 1878). The smallest is 120 mm and the largest 150 mm.

runs on time with signs clearly stating when the next train will arrive. It is also fascinating to see the Parisians carrying their groceries, plants, and other purchases. Entertainment exists as bands play on the trains. They jump on, play a couple of songs, and jump off. It took me a day or two to realize that they were playing the same two American songs, over and over - for tips, of course.

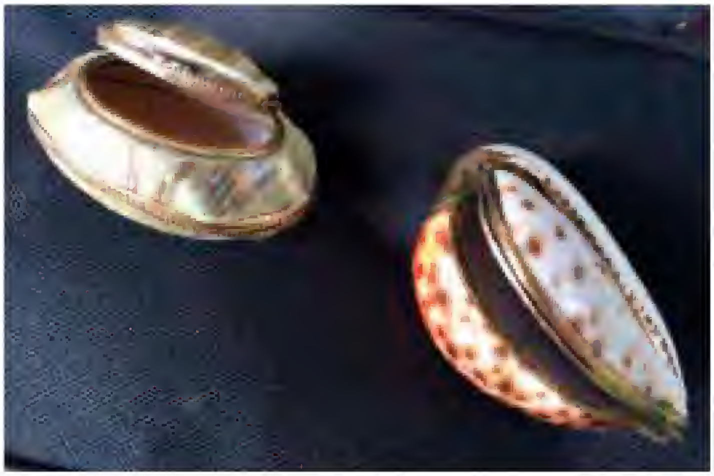
Didier has a remarkable collection of recent and fossil cowries. The fossil cowries from the Paris Basin (an area that I interpret as the Seine River Valley around Paris) are like nothing seen in our hemisphere (see the fossil plates in the back of *A Guide to Worldwide Cowries* by Felix Lorenz Jr. and Alex Hubert). Didier also had what were surely hundreds of varieties of non-cowrie marine mollusk fossils he had dug up in dozens of localities throughout the Paris Basin and beyond. I brought some Florida Pleistocene fossils on the plane as a gift, or hopefully for exchange for a few Paris examples. Didier was extremely generous in sending me home with a heavy bag of dozens of wonderful fossils. We have been and anticipate doing more exchanges through the mail. Didier is looking for a fossil *Cypraea chilona* (Dall, 1900) or *Cypraea tapeina* Gardner, 1947 (synonym?) from the Chipola Formation in northwest Florida. If any reader has a specimen to spare, please contact me. Didier's yard had a beautiful and fragrant purple lilac bush in full bloom, thirty days ahead of the Boston equivalent. It seemed like flowers were blooming everywhere in Paris.

The evening of day four, Friday, was devoted to cheering on Braden and the two Boston teams with which we had traveled. Braden's team, as well as the other Boston team, finished fifth in their respective categories, in a sport dominated by the French. We were satisfied with that result and enjoyed meeting with and exchanging skating pins with teams from Spain, Australia, Russia, Ukraine, and France, as well as USA teams from Cape Canaveral, Detroit, Los Angeles, and Houston.

On Saturday morning, Braden, Gayle, and I visited the Paris flea market, Paris Marché aux Puces [the Market of Fleas], in the north of the city. This is a huge market with over two thousand dealers, covering several city blocks, but organized by specialty. One area had gorgeous second-hand European furniture. This is the area where Bill Gates was spotted a while back, at which time the dealers quickly spread the word, "No discounts today!" We looked at the shops specializing in lesser antiques and found two shell-related items: a snuff-box and a rosary bead box, both made from shell and both quite old. A shop, with what could have been quite a find for antique paintings, was closed.

On day 6, Sunday, Braden and some of his friends visited the Catacombs. The Catacombs began as a mining operation in the 1600s and 1700s outside Paris, where property owners first dug a well, and upon finding limestone, would bring it up as building material. The building boom of the time demanded a lot of such material and these unauthorized mines expanded and connected underground in areas where Paris would eventually grow over the top of these caverns, which also had marine molluscan fossils, although most were just the internal casts of mollusks (a.k.a. steinkerns). In other limestone diggings around the Paris Basin, well over 1,000 species of marine molluscan fossils are known. In fact, 1,200 fossils are known from Grignon alone! But, back to the Catacombs. The Black Plague of the 1600s and 1700s over-filled the grave yards of Paris. It became necessary to exhume the remains of thousands of bodies and move them to the Catacombs. Six million people were eventually buried in the Catacombs, making this "The World's Largest Grave." The Catacombs have been open to the public on a regular basis since 1874 and it is today one of fourteen "official" Paris museums. One enters the Catacombs by a narrow spiral staircase and twisting hallway of mortared stone. You then find yourself at the entry facing the inscription, "Arrête! C'est ici l'empire de la Mort" [Stop! This is the Empire of the Dead].

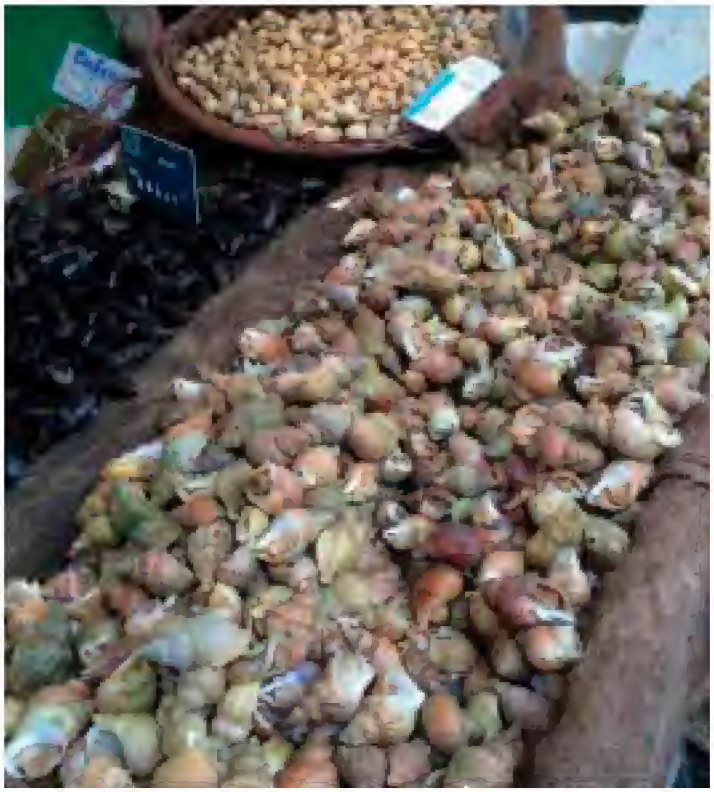
There are almost two hundred miles of tunnels, but only a small portion are open to the public. The halls and caverns are made up of walls of carefully arranged leg



Shell snuff-box and rosary bead box we found in the Paris Marché aux Puces [the Market of Fleas].

A wall of bones in the Paris Catacombs – some of the six million entombed "The World's Largest Grave."

***Pecten maximus* (labeled as "San Jacques"), shrimp, and mussels in the Paris fish market.**



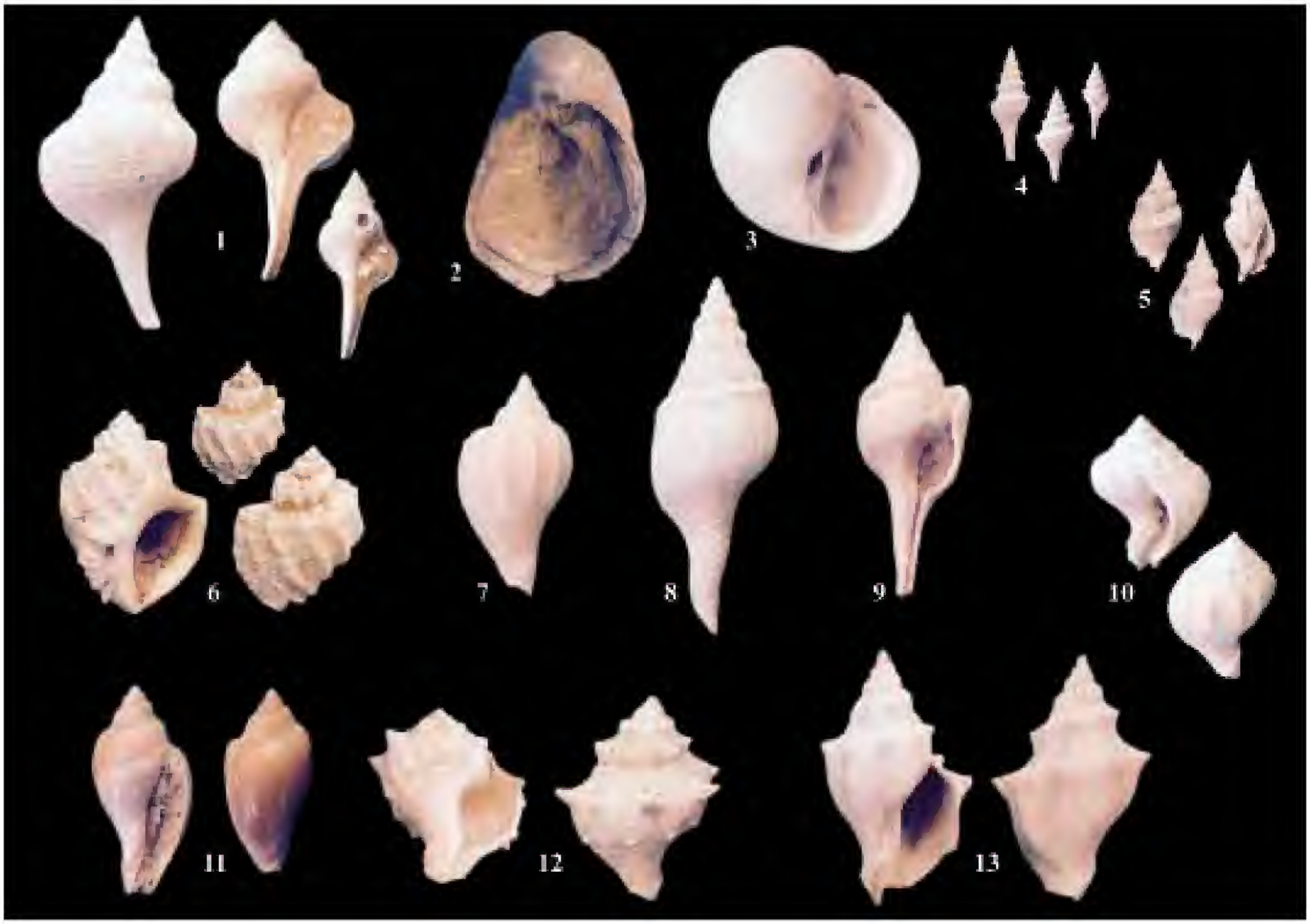
Buccinum **(*B. undatum* Linnaeus, 1758?), *Solen* sp. (upper left), and *Mytilus edulis* Linnaeus, 1758, (moules in French) in the Paris fish market.**

Author at the statue of Lamarck at the Muséum National d'Histoire Naturelle. The inscription has eroded with time and is almost totally worn away.

bones decorated with skulls. As you can imagine, the "tour is unsuitable for people with heart or respiratory problems or young children." With one-hundred-thirty steps to go down and eighty-three steps back up to the street level, the catacombs are not accessible for those with reduced mobility. During World War II, the Catacombs became the secret place where the French Resistance would work in opposition to the occupying Nazis, who actually established their own underground bunker. In 2004, the Paris police discovered a fully functioning cinema with tables and chairs, and a stocked bar and restaurant. They still have not identified the source of electricity for the bunker.

Braden said he saw some remnants of fossils in the walls of the Catacombs, what were surely the "casts" formed when the actual shell dissolved, leaving just the shape of the inner whorls of the shell. While Braden went to the Catacombs, Gayle and I had to choose between another trip downtown to see the fish market and natural history museum or a trip to the Moulin Rouge to see the feather dancers. Well, the dancers will have to wait until another time. The fish market at Bastille Square on Sunday morning had over a dozen dealers of marine mollusks and fish, intermingled with fruit and vegetable dealers, clothing and souvenir dealers, and vendors cooking all sorts of exotic French, Indian, and assorted national dishes, all in open-sided tents. This was certainly handy, as this was the only day of our Paris visit when it sprinkled lightly. The sights, sounds, and smells will remain with us for many years. Bands played, merchants yelled hawking their wares, and the very colorful, beautiful arrangements of stacked food and vegetables were absolutely gorgeous. I do not think we have ever seen so many colors of vegetables such as we saw in just the tomatoes and peppers. We bought a dozen species of edible mollusks and left a few behind, like razor clams, squid, and octopus. Still, we came home with a nice collection from the Paris fish market, actually from the shores of Brittany, France. At one of the stalls the vendor carefully cleaned the shells, threw the shells in the trash, and handed me the animals! I had to get her to retrieve the shells from the trash. It is so hard to train fish vendors. At other vendors, I just took the purchase with me rather than trying to explain that I just wanted the shells.

A short taxi ride away was the Muséum National d'Histoire Naturelle, with a statue of Jean Baptiste Pierre Antoine de Monet, Chevalier de Lamarck out in front. Lamarck expanded Linnaean binominal nomenclature by describing dozens of new molluscan genera and hundreds of new shell species. Lamarck worked at the museum and lived at the time of the French Revolution. He probably saved his own neck and the museum by renaming the park in which the museum stands from Jardin du Roi [King's Garden] to Jardin des Plantes [Garden of Plants]. That tiny nuance probably changed the course of natural history! Also Lamarck was

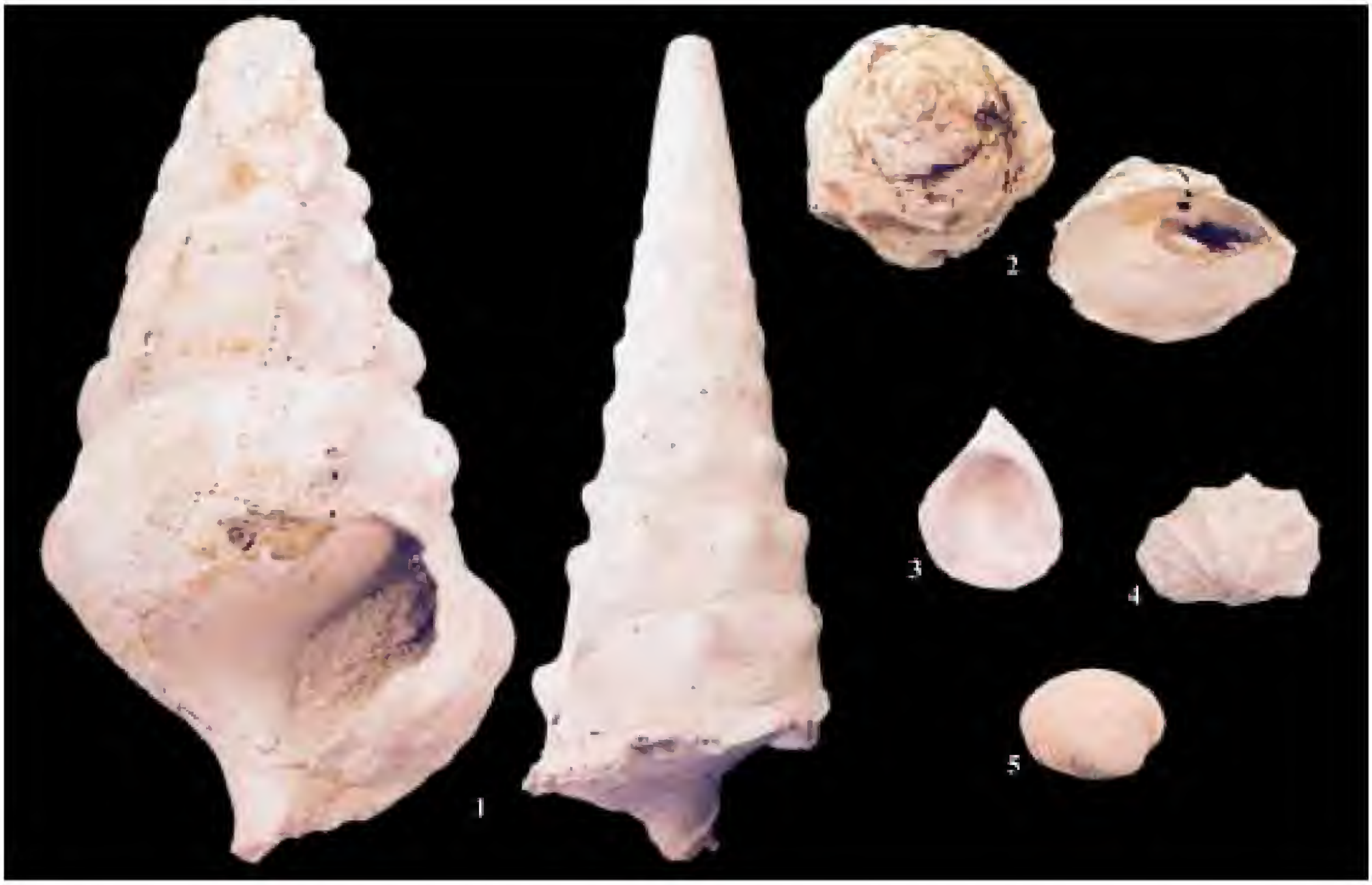


A sampling of fossils collected by Didier: 1. *Euthriofusus* sp., Léognan, Fr., 2. *Gryphaea arcuata* Lamarck, 1801, Corbigny, Fr. (a bivalve commonly known as the "Devil's toe nail"), 3. *Crommium angustatum* Grateloup, 1827, Aquitaine, Fr., 4. *Surcula terebralis* (Lamarck, 1804), Villiers St.-Frederic, Fr., 5. *Rimella demissatus* St-Martin-d'Oney, Fr., 6. *Trigonostoma acutangulum* (Faujas, 1817), Pas de Barreau, Fr., 7. *Athleta ventricosa* (Defrance, 1835), Damery, Fr., 8. *Clavilithes noae* (Lamarck, 1803), Damery, Fr., 9. *Clavilithes maximus* (Deshayes, 1835), Damery, Fr., 10. *Stepsidura turgida* Le Guepelle, Fr., 11. *Cryptochorda stromboides* (Hermann, 1781), Damery, Fr., 12. *Melongena minax* (Solander in G. Brander, 1766) , Le Guipelle, Fr., 13. *Volutilithes muricina* Lamarck, 1803, Damery, Fr.

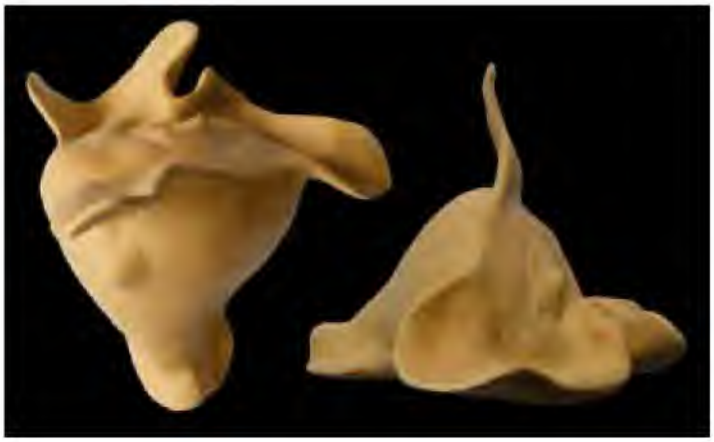
certainly lucky to be living at a time when those Paris Basin fossils were most bountiful. That taxi ride was in a relatively new Mercedes. We tried to keep our bag of leaking shells from getting the immaculate carpet soiled.

Gayle and I returned to the hotel while Braden went to the Louis Vuitton store with a fellow skater. The designer stores are so popular that they limit those admitted. Braden and his friend had to wait outside for others to leave. As it was lightly sprinkling, they were given an umbrella. Had they been in the market for over $5,000 of designer items, they would have been given complimentary champagne!

It was a scramble for Gayle and me to re-pack and prepare for the homeward journey on Monday. I cleaned the bivalves in hot water in the room sink, just as Bill Clench had shown me decades earlier, which gave us the "flavor" of shelling trips past. Braden was not at all happy when he returned from his upper-class activities to be greeted by strong odors "of death" due to the animals that I had purchased at the fish market. It was unfortunate that the windows in the hotel could not be opened to let in some fresh air. It is amazing to me that after so many years of being involved in cleaning shells that I do not even notice the pungent odors, and I am usually sensitive to odors. The univalves I took down to lunch where we had Croque Monsieur, the French version of a grilled ham and cheese sandwich, but with the cheese on the outside. I had the dining room waiter microwave my *Buccinum undatum* snails for two minutes in a zip lock baggie with a bit of water, just as Peggy Williams told me at Sarasota COA 2013. (Thanks, Peggy!)



More fossils collected by Didier: 1. Eight-inch specimens of *Campanile cornucopiae benechi* (Bayan, 1870), Nehou (Normandy), Fr., 2. *Xenophora burdigalensis* (Grateloup, 1847), Leognan, Fr., 3. *Hipponyx cornucopiae* (Röding, 1798), Normandy, Fr., 4. unknown fossil bivalve, 5. *Chione ambigua* Deshayes, 1853, Saint-Mourbin d'Oney, Fr.



A cast of *Gisortia gigantea pterophora* Schilder, 1927, 264 mm in length! The holotype was lost in 1902, but recently rediscovered by Pacaud (2008).* He proposes this species is a subjective junior synonym of *Gisortia combii.*

This concluded our visit to wonderful Paris, with the exception of another 22-hour delay at the Ibis Hotel at the Charles de Gaulle Airport because our return flight on Air France's Boeing 747 was cancelled. It landed with only three of the four engines still working. We understand that the planes can land with only two engines, but four are required for take-off! Paris itself was a resounding "ten." The negative stories about the French are rubbish. We did try to be "good tourists" by saying Bonjour and Au revoir and Merci and by speaking quietly in public. Just remember that the French are quite formal in their dress and their speech. Au revoir, mon ami, nous nous reverrons [Good bye, my friend, until we meet again].

I sincerely thank Didier Debailleux, for shells, friendship, and for correcting my poor French and imperfect knowledge of Paris.

Edward Nieburger
enieburger@hotmail.com

***Pacaud, Jean-Michel. 2008.** L'original de *Gisortia gigantea pterophora* Schilder, 1927 (Mollusca, Gastropoda, Cypraeoidea) retrouvé, *Cossmanniana* 12(1-4): 47-53.

Two unexpected findings in the northern Gulf of Mexico

Deborah Duval

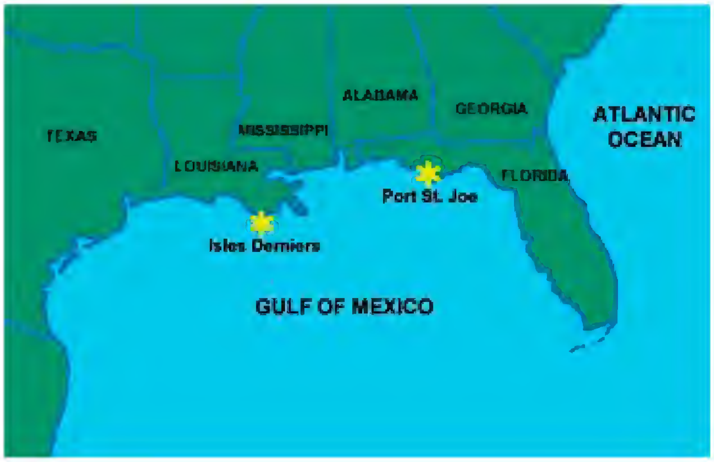
In August 1983, the Louisiana Malacological Society took a weekend field trip to Port St. Joe, Florida. There were quite a few of us and we stayed in some cabins at the State Park. We raised a real ruckus! What fun we had!

While collecting on the beach on the bay side of the peninsula, I ran across a sizable sponge and dropped it in my bucket. I pick up all kinds of interesting but useless things. After a while I sat to take a break and started examining my sponge and shaking it, and what do you think? A wonderful little black and red shell fell out. I met Emilio García coming from the opposite direction and showed him my little shell. After closely examining it, he told me it was *Vexillum histrio* (Reeve, 1844) (Figure 1) and that it did not come from Port St. Joe - maybe it was left in my bucket from a previous trip. I declared that it could not have been left in my bucket because my bucket was new. I knew the shell came from the sponge. Then back home I went with my mystery shell and there it stayed until now.

Although *Vexillum histrio* was reported by Cernohorsky (1978) as inhabiting northwest Florida, later comments by Gary Rosenberg (2009) on Cernohorsky's geographical extension considered the Florida species to be *Vexillum epiphaneum* (Rehder, 1943). The only record of *V. histrio* from the Gulf of Mexico is from the Florida Keys (Rosenberg, 2009). The specimen I found in the sponge in St. Joe Sound seems to be the first valid record of *V. histrio* in the northern Gulf of Mexico. A nice range extension.

And then there is *Busycon lyonsi* Petuch, 1987. Until fairly recently we had a camp on Isles Derniers ("Last Islands"), off the Louisiana coast. I spent literally hundreds of hours walking the beach or sitting amongst piles of little shells that would shoal up. There were always treasures to be found - wentletraps, jingle shells, false angel wings, etc. I kept jars and jars of these small beached shells. One day, in 1984, I picked up a small *Busycon* and dropped it in the collecting bag. I didn't look closely at it, just tossed it in the bag. All these years later I am trying to curate these little treasures and, lo-and-behold, I had a *Busycon* that appeared to me to be a dextral Busy*con sinistrum* Hollister, 1958. Not believing my eyes, I took that specimen and a small *B. sinistrum* to our shell club meeting for Emilio (our shell guru) to look at. He examined and compared them, and determined that it was not a dextral *Busycon sinistrum*. He suggested that I compare it with *Busycon candelabrum* (Lamarck, 1816). I did so, but I also found the description of *B. lyonsi* Petuch, 1987. So based on geographical distribution and the length of the siphonal canal I have labeled the specimen *Busycon lyonsi* (Figure 2).

As they say, "better late than never."



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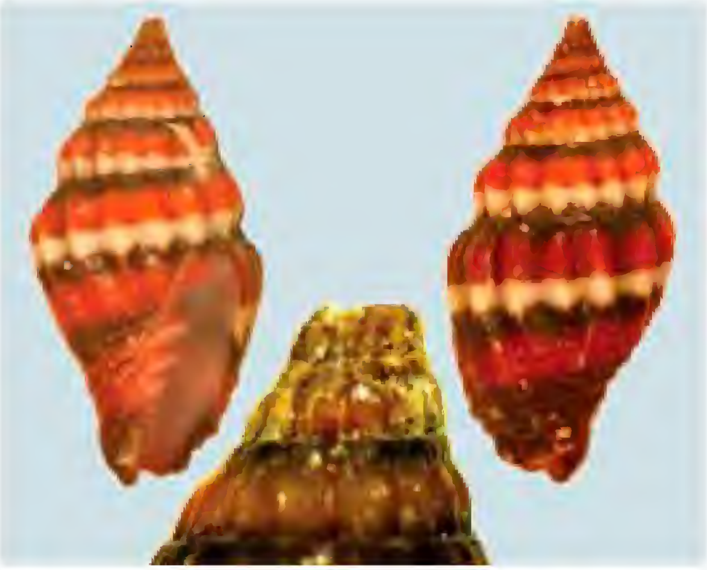
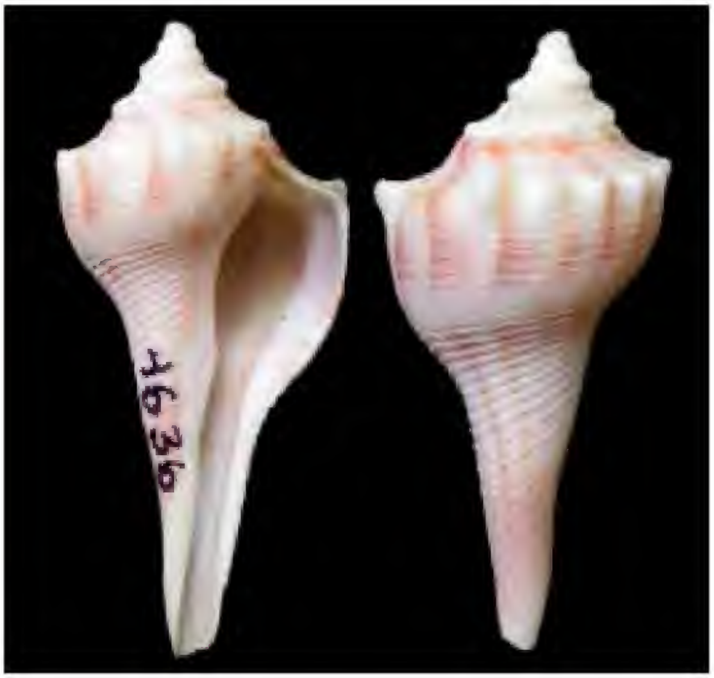


1. *Vexillum histrio* (Reeve, 1844), 15.1 mm, Port St. Joe, Florida.



2. *Busycon lyonsi* Petuch, 1987, 27 mm, Isles Derniers, Louisiana.

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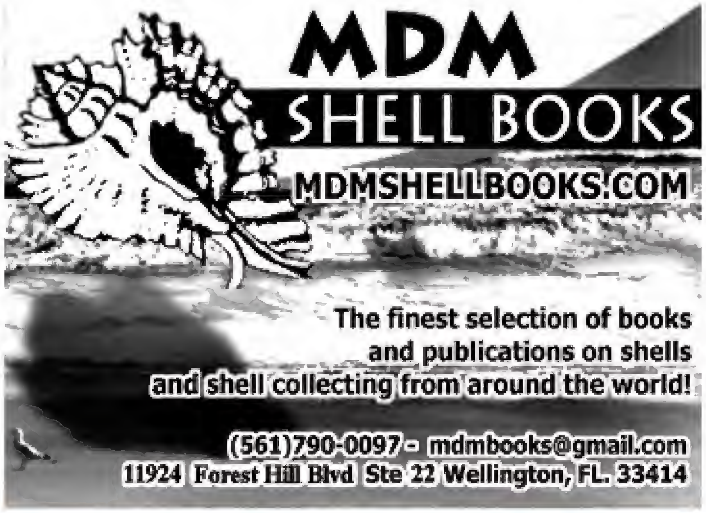
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A shell by any other name would be mislabeled – adventures in nomenclature

David Campbell

ABSTRACT

Finding the right name for a specimen involves two major issues. First, there is the question of nomenclature – what names are appropriate designations for species? Is the name legally proposed or not? Is it spelled correctly? Secondly, there is the question of systematics – are these two forms different enough to deserve recognition as separate species, genera, etc.?

Working through nomenclatural issues involves a lot of library work. Fortunately, much is now available online (notably in the *Biodiversity Heritage Library*: www.biodiversitylibrary.org and *AnimalBase*: www.animalbase.uni-goettingen.de/zooweb/servlet/AnimalBase/search), though there are still works that are unavailable online or only offered as a poor-quality scan. On the other hand, much online information is inaccurate, as data quantity has often been a much higher priority than data quality. Many sources copy each other, making it quite difficult to tell what are genuine independent opinions, as well as making it hard to get to the root of a problem and correct it.

In the course of my research, I have encountered a number of convoluted nomenclatural problems. Major catalogs are helpful, but can contain errors, either inadvertent or through biases of the compilers. It is critical to look up the original reference, but later citations may also be essential, such as for subsequent designations of types. The following give some examples of the complex issues that arise.

Melania reinwardtii: spelling and existence.

Köhler & Glaubrecht (2003) note that Reeve listed *Melania reirvardii* de Haan & Adams and *Melanoides reenivardii* de Haan & Adams. Brot (1870) respelled them *reirwardii* and *reinwardii* but couldn't find an original citation. Köhler & Glaubrecht (2003) were unable to locate types or a description matching either name. Specimen labels now in the collection at the Paleontological Research Institution add the spellings *Reenwardi* and *remivastii*. It seems de Haan named a couple of species *reinwardtii* (a cnidarian and an insect, 15 years apart), but no cerithioidean with that epithet has yet been traced, and it may be a manuscript name. Reinwardt was a botanist and a significant source of specimens and an inspiration to other authors, as several phyla have species named for him. Judging by the spelling problems, few malacologists had heard of him, however.

Limnaea adelinae: spelling, existence, age, and identity.

Cossmann (1921) cited *Limnaea adelinae* Forbes, 1847 as a Recent member of the genus *Adelina* (including both a misspelling error and incorrectly citing a fossil species as Recent). *Index Animalium* cites *Limneus adelina* Forbes, 1847. Examination of Forbes (1847) complicates the picture further. The text claims that they found *Adelina elegans* Cantraine, 1841, but didn't think that it deserved a separate genus from *Lymnaea* (misspelled as *Limneus*.) Rather than calling the species *L. elegans*, however, they seem to have demoted the genus to species level and repeatedly called it *L. adelina* (Fig. 1). Whether to regard this as a new species name or not is debated. A name and illustration are enough to validate a species name from 1847, but the text strongly indicates that was not the intent. Two added complications arise. Forbes' material was collected from Turkey, whereas Cantraine wasn't certain where his specimen came from but thought it to be Italian, so one could argue that the locality makes a difference. Secondly, *Adelina* is a junior homonym. It was replaced by *Adelinella* Wenz, 1922, but Mienis (2013) argues that it is a subjective synonym of *Corymbina* Bukowski, 1892.

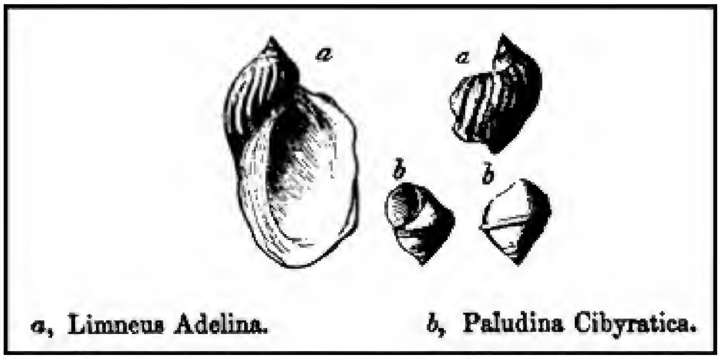


Fig. 1. From Forbes (1847).

Bocourtia: locality and taxonomy.

Hubendick (1951), in his haste to lump as much of the Lymnaeidae as possible, quoted Rochebrune (1882) "... il serait impossible de ne pas considérer comme faisant partie du genre *Lymnaea* et dans le voisinage du *L. palustris,...*" [it would be impossible to not consider them as making a part of the genus *Lymnaea* and in the neighborhood of *L. palustris*] as proof that *Bocourtia* is just a synonym of *Lymnaea.* The use of "serait" [would be] suggests a further phrase along the lines of "if it weren't for...", and in fact Rochebrune asserted that the anatomy was highly divergent from lymnaeids. Hubendick had some excuse, however, as

Rochebrune failed to actually describe any of the anatomical differences. Ancey (1905) recognized that they were stylommatophoran land snails from Ecuador, not freshwater snails from Bangkok. The genus has been overlooked in most work on land snails.

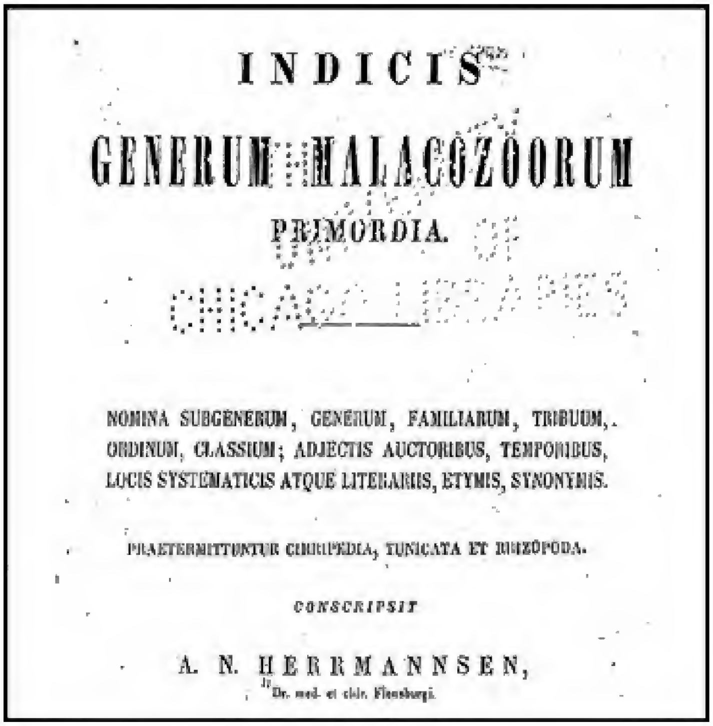
Anadontina and *Crenodonta*: what are they?

Schlüter (1838) named several new genera and species. No descriptions are given, only localities, so the new species are generally invalid. Many of his genera, however, are based on previously-described species and thus valid, notably *Babylonia.* Two of his unionid genera have caused confusion. *Anadontina* is based on *Unio anadontina* Lamarck, from North America, which Schlüter renamed *Anadontina turgida* to avoid tautonomy. Although modern zoological (but not botanical) rules allow the genus name and specific epithet to be identical (e.g., *Mercenaria mercenaria*), some earlier authors, including Schlüter, created new names for species if they created a new genus name identical to the existing specific epithet. Ironically, it wasn't actually a case of tautonomy, as he misspelled *Unio anodontina* (by modern rules, Lamarck had the gender wrong). Given the name and the listed locality, *Anadontina* has been cited as a junior synonym of edentulous [ed: toothless] North American genera; however, Lamarck's species had incorrect locality data and is a junior synonym of his correctly-located *Unio marginalis* (1819) from India (both names were published in the same publication and have the same date, but the first subsequent author (first reviser) to synonymize the names designated *U. marginalis* as the senior synonym). Today, Lamarck's species is widely cited as *Lamellidens marginalis.* Although *Lamellidens* Simpson (1900) is much later than *Anadontina*, it is used by hundreds of papers, whereas *Anadontina* has only appeared in synonymies and similar compilations, so it can be suppressed (Article 23.9). The case of the species name is more complex. Nomenclature of freshwater mollusks for much of the 1800's was dominated by Isaac Lea, and his legacy strongly influenced later workers as well. Lea often suppressed names published by other workers (particularly Rafinesque), although Lamarck was acceptable. Thus, *Unio testudinarius* and *U. truncatus* (both Spengler, 1793) have been synonymized with *U. marginalis.* Simpson (1900, p. 855; 1914, p. 1167), following Lea's example, states "I use Lamarck's name for this species because the *U. testudinarius* and *truncatus* were only briefly and imperfectly described, and never figured, their habitats being given as Greenland." Spengler, however, correctly reported them as from "near Tranquebar," in India, and the brief Latin description was supplemented by a discussion in Danish far longer than most other early mussel descriptions (including those of Lamarck). The species had been incorrectly reported from Greenland before Spengler's time. Type specimens were available, though not figured until 1913. A few workers have recently used *testudinarius* as the name for this species, so it can only be suppressed by the ICZN.

Crenodonta, Schlüter's other usable unionid genus, has been used in the past for *Amblema*, as *plicata* Say is the first included species. The first selection of a type species was by Herrmannsen (1852), who selected *Unio securis* "Deshayes" (actually Lea, 1829), as the type of *Crenodonta. Unio securis* Lea is a subjective synonym of *Obliquaria (Ellipsaria) ellipsaria* Rafinesque, 1820, the type of *Ellipsaria.* Thus, *Crenodonta* is actually a subjective synonym of *Ellipsaria* Rafinesque, 1820, rather than of *Amblema* Rafinesque, 1820.

Herrmannsen: Types and spelling.

As alluded to above, Herrmannsen designated type species for many mollusk genera. His *Indicis Generum Malacozoorum* (1846-1852) (Fig. 2) sought to list all higher taxa in the Mollusca (as then understood), starting with Aristotle. Often he designates a type species, not necessarily by modern rules nor following any previous designation, but sometimes it is the first designation. He also sought to improve the Latin by changing the spelling of many genera, rarely drastically (*Stenelasma* for *Lastena*). Despite its importance, it has not been consistently used by subsequent authors. For example, Ortmann and Walker (1922) cited Herrmannsen's type designation for *Rotundaria* (unfortunately not the earliest) but ignored others, such as for *Obovaria.*



INDICIS
GENERUM MALACOZOORUM
PRIMORDIA.

NOMINA SUBGENERUM, GENERUM, FAMILIARUM, TRIBUUM, ORDINUM, CLASSIUM; ADJECTIS AUCTORIBUS, TEMPORIBUS, LOCIS SYSTEMATICIS ATQUE LITERARIIS, ETYMIS, SYNONYMIS.

PRAETERMITTUNTUR CIRRIPEDIA, TUNICATA ET RHIZOPODA.

CONSCRIPSIT

A. N. HERRMANNSEN,
Dr. med. et chir. Flensburgi.

Fig. 2. Herrmannsen's *Indicis Generum Malacozoorum* (1846-1852).

Ens: automation has problems.

The genus *Ens* appeared in several online taxonomic compilations as a genus of Lymnaeidae. Information about the name was generally vague, with responsibility given to some other database. Eventually I tracked down an erroneous entry of *Pectinidens*, and that database was corrected, but the spurious name still appears in some places. Incorrect or insubstantial data (such as a name with no content) are widely copied between websites, highlighting the need for and lack of checking by taxonomists.

Smith, 1875a, b: Manual publishing can have problems, too.

Smith (1875a) described a new *Carinifex*, while in the immediately following article (1875b) he described a new species of *Alaba (Diala)* (now *Carinifex newberryi* and *Mainwaringia leithii*). The figures, but not the captions, were swapped (Fig. 3), with the curious result of a high-spired, operculate planorbid and a hyperstrophic sinistral littorinid. The second paper also illustrates the unhelpful practice of using a subgenus as if it were a genus. The text explicitly calls *Diala* a subgenus of *Alaba*, but uses *Diala* as if it were a full genus. It's important to read the whole article to check for such issues.

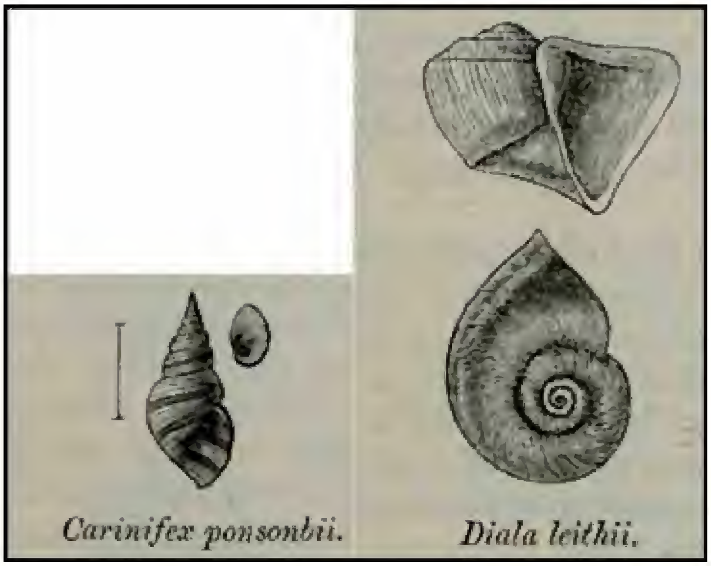

Carinifex ponsonbii.
Diala leithii.

Fig. 3. Smith (1875a) swapped labels between his new *Carinifex ponsonbii* and *Alaba* (*Diala*) *leithii.*

Catascopia: why you should do all this.

Meier-Brook and Bargues (2002) noted that the North American species assigned to *Stagnicola* (like the illustrated *"S." exilis* in Fig. 4) were genetically different from most European species with similar shells, including the type of *Stagnicola*, and created *Catascopia*, distinguished only on molecular grounds. It is an objective synonym of *Walterlymnaea* Starobogatov and Budnikova, 1976, and a subjective synonym of several other names. *Ladislavella* Dybowski, 1913, is the oldest name based on extant species, but *Polyrhytis* Meek, 1876, based on a fossil, is earlier.

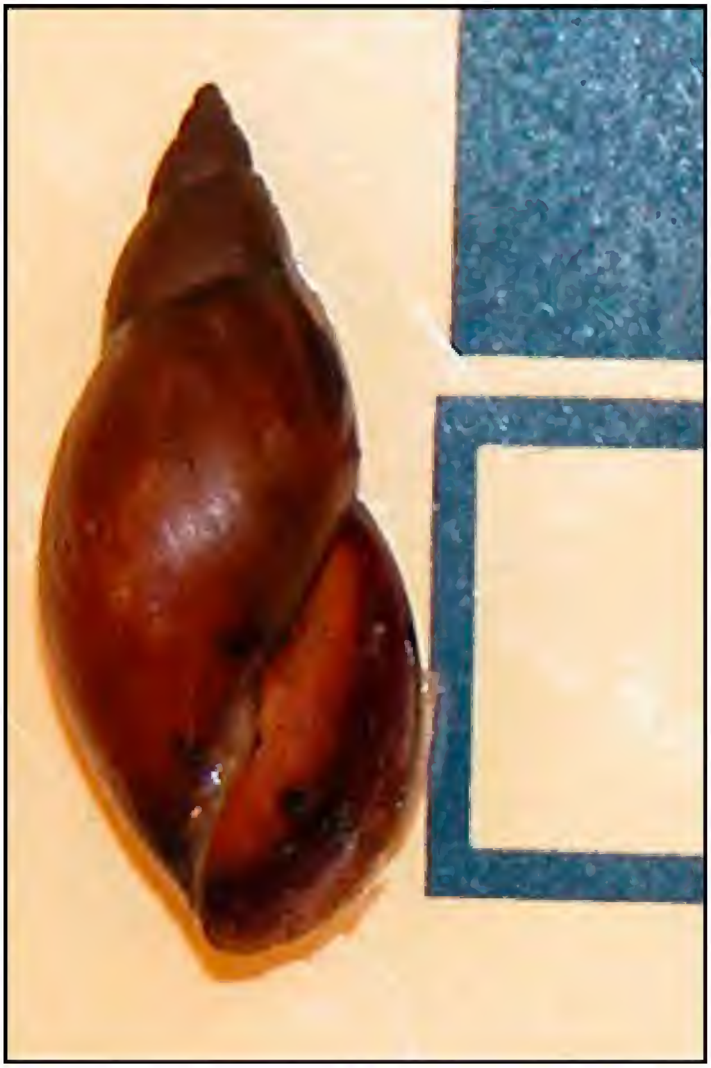


Fig. 4. *Stagnicola* (or *Catascopia*, or *Ladislavella*, or *Polyrhytis*, or...) *exilis* (I. Lea, 1834), 18 mm, the flat-whorled pond snail, has a wide distribution but an uncertain taxonomy. Photo by author

Acknowledgements

Claudio Fanelli tracked down references on *Bocourtia*. Interlibrary loan provided many key sources.

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Editor's note: like many shell collectors I have been both fascinated and frustrated by taxonomy and systematics. Taxonomy is often confused with or incorrectly used interchangeably with systematics; they are very different, but could be thought of as two sides of a single coin. I am as far from expert as one can get, but with liberal use of Wikipedia.com and other sources (thanks Bruce), here is a simplified overview.

Taxonomy: the scientific description, identification, nomenclature, and classification of organisms.

Systematics: the study of the diversification of living forms, past and present, and relationships among living things through time. These are often represented as evolutionary trees (cladograms, phylogenetic trees, phylogenies).

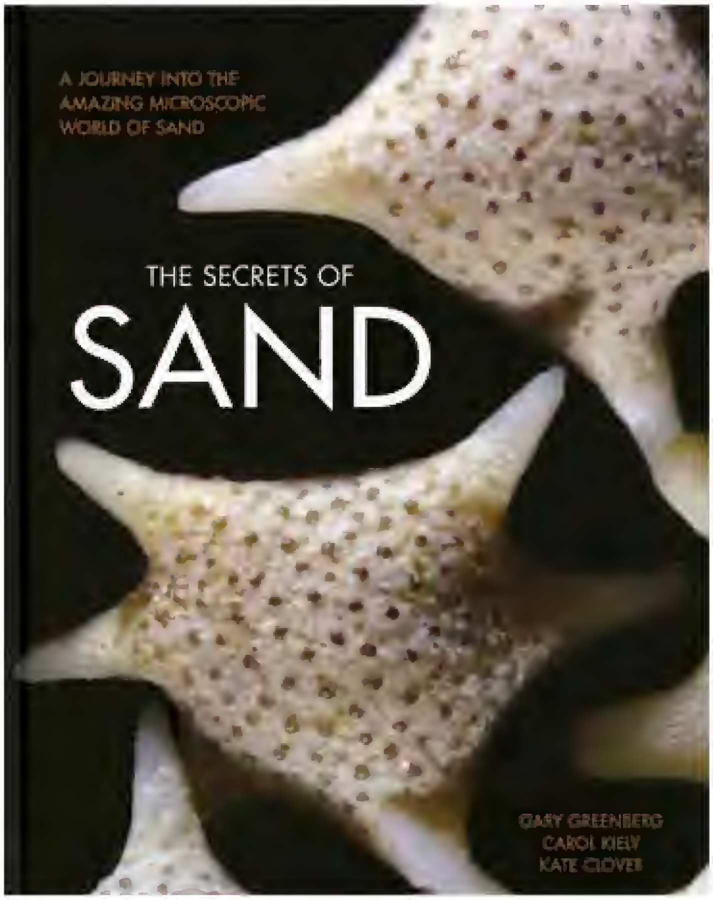
Thus taxonomy concerns itself with the proper labeling of the specimen in the drawer while systematics concerns itself with the relationship of that specimen to others.

The oft-cited **ICZN** (International Commission on Zoological Nomenclature) is, "Responsible for providing and regulating the system that ensures every animal has a unique and universally accepted scientific name." (www.iczn.org) This august body is there to ensure the nomenclatural rules are followed and to settle technical naming disputes, NOT to determine if a particular organism should be classified as a species, subspecies, or form; or placed in this or that genus or family. The myriad of new genera and subspecies for Conidae and Cypraeidae reflect different authors' views of the relationships (systematics) within these families, not ICZN determinations.

And now to **homonyms** and **synonyms**. There can be only one correct scientific name for an organism. Multiple names are either homonyms (if they are the identical name given by different authors or at different times to a 'single' organism) or synonyms (if they are different names given to a 'single' organism). A synonym is objective if the name is provided for a single organism with a specific type. Or it is subjective if the name is applied to organisms with different types (i.e., we thought they were two species, but then determined they are forms of a single species, so the junior name is a subjective synonym). Homonyms are either primary (same species name in the same genus) or secondary (the name is moved to a genus where another species already has that taxon). Usually the senior (oldest) name is deemed correct, but there are exceptions (here is where the ICZN comes in). This is a very simple explanation ignoring any number of exceptions and intricacies, but it is a start.

The Secrets of Sand
by Gary Greenberg, Carol Kiely, & Kate Clover

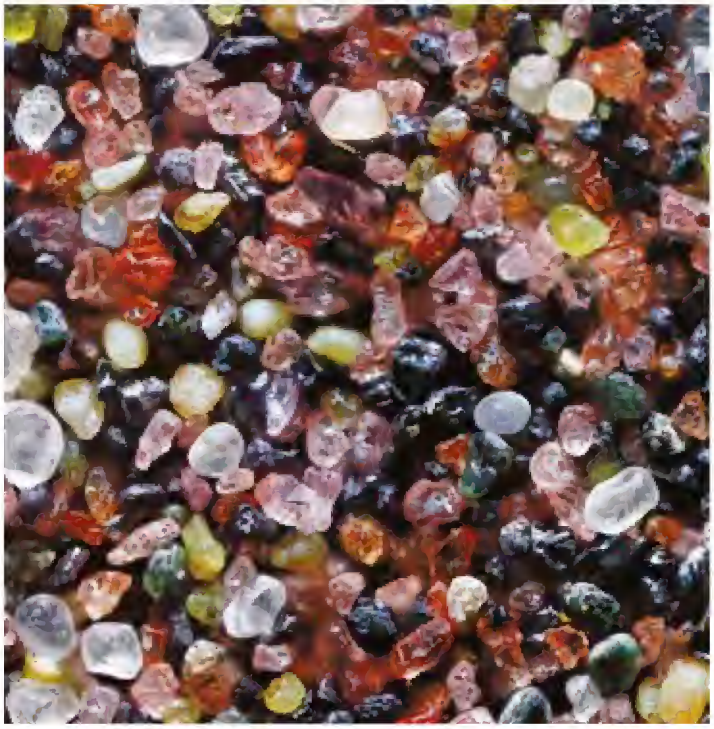
Voyageur Press, Minn., MN.
2015, 128 pp., 100+ color images
ISBN (hardback) 978-0-7603-4944-1
$19.00 to $27.00 at Amazon.com



No, this book is not about shells. There are a few shells pictured, but this is a book about sand, the ubiquitous grains that surround (and are often made up of) the shells we find on the beach. Most shell collectors end up with bags of "shell grit" that we will "get to eventually." When we do examine these bags we use a magnifying glass to separate the shells from the sand. The authors of this wonderful little book have gone a step further and provide the reader with colorful high-definition microscopic images ("deep-focus, x-ray, and scanning electron microscope photography") of grains of sand. The grains are shown three-dimensionally reconstructed, which means focusing the camera at a dozen different depths from the top of the grain to the bottom and then electronically recombining the images so that the entire grain is shown as sharply in focus. In some of the images these minute grains are fist-sized; in all of the images they are colorful, intricately-shaped, and quite often, stunning. Many are jewel-like, and in fact, many are miniature precious stones.

From Maine to Hawaii, and the Caribbean islands to Minnesota, what would appear when held in the hand to be ordinary sand is shown to be anything but, when greatly magnified. Brown beach sand is made up of a myriad of bright sparkling colors. While most of the images show sand from North American environs, there are also samples from around the world (e.g. India, the Mediterranean, England, Norway, Japan) and an entire chapter on the surprisingly colorful and wildly sculpted sands found on the moon. These are not moon rocks you have ever seen before.

Each image is well-captioned and there is plenty of text explaining the origins and intricacies of sand, whether on a beach, a desert sand dune, a mountain lake, or along a river. According to the authors, "...there are about five thousand billion *billion* grains of sand on all the beaches of the world – and that number is only the tip of the iceberg, it does not include all the grains of sand in the world's deserts, lakes, and rivers and on the ocean bottom." Sand is literally everywhere, but until you have looked at this book you have not really seen our world's sands. For less than the cost of a restaurant meal you can own this treasure (5 out of 5 on Goggle "Good Reads"). And where else can you discover the three places on earth that ooide sand grains are created?



This is a reduced image of a portion of one of the color plates. What looks like brown sand is shown to be made of many colors: pink and red garnets, black magnetite and ilmenite, green epidote, white quartz, and blue-green diopside.

Nudibranchs Encyclopedia: Catalogue of Asia/Indo Pacific Sea Slugs (2nd ed.)

by Neville Coleman (revised by Gary Cobb and David Mullins)

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2015, 312 pp., 2000+ color images
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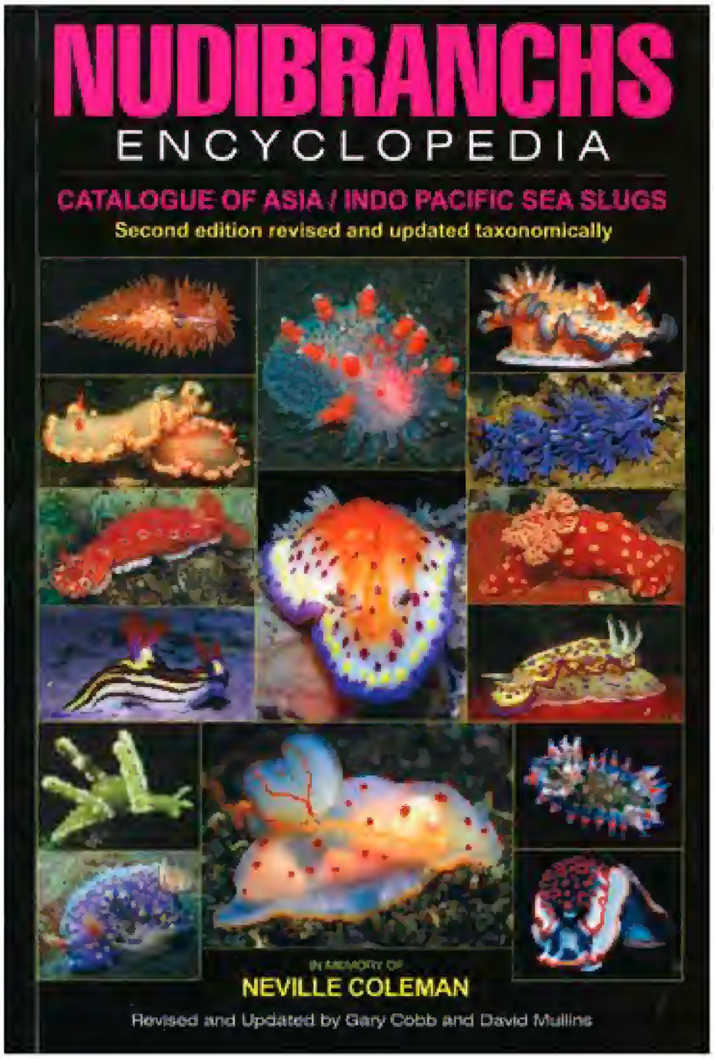

NUDIBRANCHS
ENCYCLOPEDIA
CATALOGUE OF ASIA / INDO PACIFIC SEA SLUGS
Second edition revised and updated taxonomically
IN MEMORY OF
NEVILLE COLEMAN
Revised and Updated by Gary Cobb and David Mullins

This is an updated and revised edition of Neville Coleman's 2008 volume of the same title. Internet sites like Amazon.com list this first edition for sale, but I have only found the second edition for sale by the publisher at THSIone@yahoo.com or at nudibranch.com.au. It is worth the extra effort as this revision and update by Gary Cobb and David Mullins is THE reference for these amazing and colorful animals, reflecting the latest taxonomy and DNA research.

Before he passed away in 2012, Neville Coleman wrote numerous books on marine life, including three hazardous marine life books (*Poisonous Marine Life*, *Dangerous Marine Life*, and *Venomous Marine Life*), as well as: *Australian Marine Fish in Color* (1974), *Shell Collecting in Australia* (1976), *A Field Guide to Australian Marine Life* (1977), *Australian Fisherman's Guide* (1978), *Shells Alive!* (1981), *Australian sea fishes north of 30S* (1981), *A Field Guide to Marine Life of South-Eastern Australia* (1981), *Harmful Fishes of Australia* (1982), *Australian Sea Life South of Thirty Degrees South* (1987), *What Shell is That?* (1988), *2002 Sea Shells* (2003), *Sea Stars* (2007), *Great Barrier Reef* (2008), 1001 *Nudibranchs* (2001), and the first edition of *Nudibranchs Encyclopedia* (2008). He developed a passion for nudibranchs (mollusks of the class Gastropoda, subclass Opisthobranchia, order Nudibranchia). The 57 families listed in this book are presented in alphabetical order, as are the various genera, and the almost 1200 species. The color plates are superb and include family, genus, species, author, date, size, locality, key identifying characters, and habitat. The general text covers the natural history of nudibranchs, discussing the five senses as they apply to these critters and how they relate to their environment. In this second edition, common names have been dropped as being often confusing and of little real use. The index is a listing of the scientific names (genus and species) with corresponding page numbers. There is also a short glossary.

The best way to collect nudibranchs is with a camera. Actual specimens in museums lack the vivid colors of living specimens and are pretty much gray slugs in alcohol or formaldehyde. Useful for DNA and anatomy work, but not very collectable. On the other hand, every diver has seen a nudibranch and if you want to know what nudibranch you saw – this book is the answer. There is also the fact that most shell collectors have a wide interest in molluscan life, an interest that goes beyond the shelled mollusks. Nudibranchs are an important part of the marine environment and are some of the most colorful and graceful creatures in the sea. This rather inexpensive book is the way to learn more about them and appreciate the vast array of stunning colors, the multitude of color patterns, and the intriguing shapes of these shell-less gastropods. I cannot imagine anyone not being amazed as they leaf through this book.

Shell shops and art

Kenneth Wye

Just a few short steps from London's busy and noisy Charing Cross Road, tucked away in a small side street opposite Foyle's well-known bookshop, at one time you would have discovered one of London's most unusual shops and one that was to become a Mecca for shell collectors and lovers of natural objects. I say 'would have,' because it is now sadly no longer there, nor can you find it on Covent Garden's famous Neal Street where it moved in 1986 – only to close again in 1996. This, people have long told me, was also 'very sad.'

Back in the dark days of Nazi occupied Austria, Frederick Mayer (then 43 years old) owned and ran a prestigious fine leather goods and tapestry-making factory in Vienna. Because he was a Jew, he was forced to flee his homeland, leave his beloved business behind, and make his way, with his family and a few treasured possessions, to the shores of Holland. Crossing the English Channel, he eventually found refuge here in England. He needed to provide for his loved ones and, as official channels worked well for him, he was enabled to establish a new business in 1938, specializing in handmade goods of natural raffia, cane, and bamboo, which were made into hats, bags, mirror frames, beach shoes, table mats, lamp shades, etc. He called the firm Eaton Bag Company Ltd.

Seashells made their appearance at the shop in the mid-1950s when F.M. was persuaded by a gentleman from East Africa to 'try' to sell some of his shells. Eaton was never the same again, and before long the Eaton Shell Shop was established and became an almost household name!

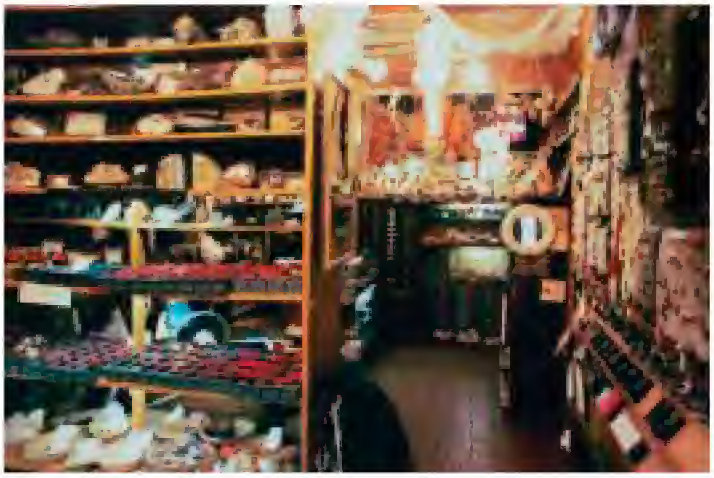
'Eaton' was actually a miss-spelling! Because he and his family would be eternally grateful for British sanctuary, he wanted to name his new firm something typically English – so he decided on the famous Eton College name, you can see where he went wrong! The name remained and become quite familiar with many shell-enthusiasts over the years!

I arrived on the scene in 1966, having become, as a young 18-19 year-old, bored working in government offices which, it turned out, were fortunately nearby on the other side of Charing Cross Road. I purchased shells originally for my artwork, but I quickly learned their names, fell in love with them, and became a collector. One day I asked if F.M. had any vacancies and to cut the story short, he took me on as a sales assistant.

I often regret not having asked F.M. more about his background and also not having more than just mental notes of all the incredible happenings and goings on in this amazing little central London shop. It warrants a book on the subject! In its heyday and height of popularity, Eaton boasted

The Eaton shop from 1946 to 1986.

The Eaton shop from 1986 to 1996.



Inside the original shop. Looks like a shell collector's dream, lots of small bins with who knows what hidden treasures.

Ken in the old shop in 1977, labeled by the Sunday Telegraph Newspaper as one of "London's Most Unusual Shops."

selling a range of such things as common and rare seashells, books and old cabinets, related marine curiosities, minerals, crystals fossils, cut & polished stones, insects in amber, meteorites, tectites, exclusive hand-made jewelry of amber, coral & opals, as well as the selection of natural woven raffias, rush, reed, grass, cane and bamboo. Eaton also sold straw hats from Italy and Indonesian 'Tapa Cloth' (woven from tree bark).

Eaton supplied shells (and a host of other items) to film, television, theatrical and stage companies for props and scenery, etc, and we were frequently mentioned, free of charge, in articles in most of the well-known magazines, from those given away free, to the likes of *Vogue*, *Tatler*, *Harper's Bazaar*, etc. All wanted our goods as they were mostly unique to us as we did our own importing.

Amongst our many thousands of clients, were serious collectors, scientists, biology lecturers, artists, designers, interior and advertising companies, and a host of everyday folk who wanted that special gift that you could not buy elsewhere. Being in the heart of theatre-land and in the West End, well known people often passed through our door. These included Vincent Price (a shell collector), Sir John Gielgud, Richard Briars, Michael Bentine, Rolf Harris, The Beatles, Felicity Kendall, and Elaine Page (who lived at that time just around the corner). Later, in Covent Garden, we had Lord Glenconner and Peter Palumbo call and, accompanied by her usual cigarette, Princess Margaret closely watched by her bodyguard. She bought some shells and later realized that she already had one of them so returned it. I issued her a credit note; I don't think it was ever redeemed with us!

During my shop days, I was approached by publishers to write three shell books, all of which, sadly, are now out of print. Although the shops have long closed (1996) due to excessive overheads, I am happy to say that I'm still going strong, working from home selling worldwide shells by mail order via my website (www.eatonsseashells.co.uk) and my Ebay 'shop.'

My artwork still commands a lot of my leisure time and I have recently re-kindled the urge to paint more shells. Back in the early 1980s I entered an exhibit of my work in the shell art section of the British Shell Collector's Club annual show and although wanting to give my exhibit 'best in show,' the eminent judges in their wisdom (including Mr Peter Dance) thought it unwise as 'it wasn't actually shells' and possibly some people may object.

Because of the publicity, I gained several commissions and I have sold shell art paintings on and off ever since. I have had no real art tuition; it was one of the things that 'I was born with' and my work over the years has comprised landscapes, buildings (the older the better), flowers, and my great love, shells.

In my shell art in particular, I was greatly influenced by the spectacular and rare books in the Linnean Society, London. I recall a wonderful visit to their library and where I saw such works as the original Martyn's *Universal Conchologist* (1784-1787), Reeve's *Conchologia Iconica* (1843-1878), Perry's *Conchology* (1811), and Swainson's *Exotic Conchology* (1821-1831), to name but a few. It was sheer joy to browse through these fine books admiring the superb quality of artwork, many shells looked so real you could almost pick them up from the page! It is my endeavour always to produce shell paintings that are good enough to make you feel you could 'pick them up' from the paper. I hope I am achieving that goal.

If any readers would like a painting of your favourite shell(s), which would be great to hang on your shell-room or study wall, or make an unusual gift, please contact me by e-mail for full details and offers: ken@eatonsseashells.co.uk, or write via my website (address above).

Some of Ken Wye's paintings

Epitonium scalare **(Linnaeus, 1758)**

Nerita peloronta Linnaeus, 1758

Gloripallium pallium **(Linnaeus, 1758)**

Liguus virgineus **(Linnaeus, 1758)**

Nautilus pompilius **Linnaeus, 1758**

Xenophora granulosa **Ponder, 1983**

Murex pecten **Lightfoot, 1786**

Additionally, Ken's *Hexaples nigrita* (Philippi, 1845) is featured on the back cover of this issue. Also, some of Ken's books (still available on Amazon.com) include: *The Mitchell Beazley pocket guide to shells of the world* (1989), *Simon and Schuster Pocket Guide to Shells of the World* (1990), *Encyclopedia of Shells* (1991), *Shell Handbook* (2010), *The Shell Collector's Handbook: The Essential Field Guide for Exploring the World of Shells* (2015).

First record of the predatory land snail *Streptostele* (*Tomostele*) *musaecola* (Pulmonata: Streptaxidae) in the continental United States

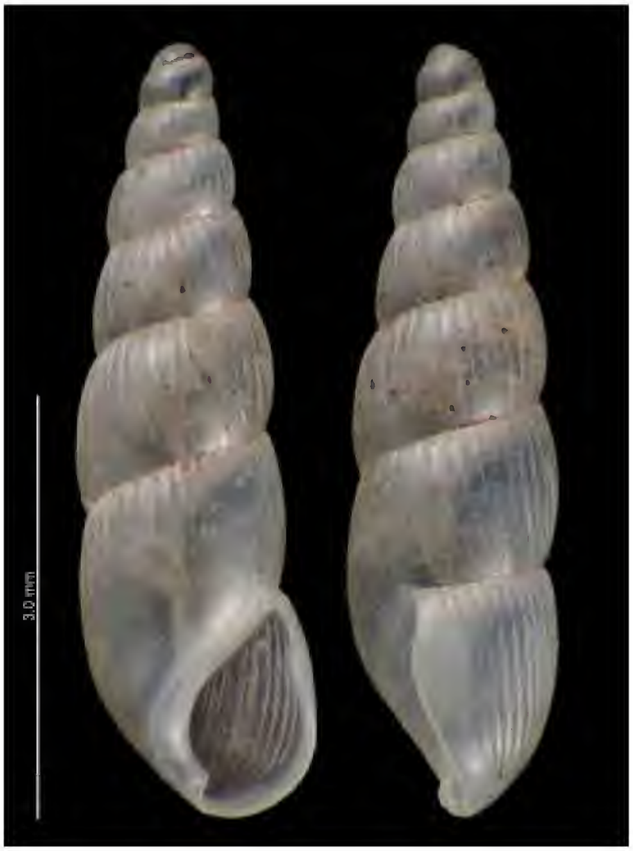
Jochen Gerber & Stephanie A. Clark

Hausdorf & Medina Bermúdez (2003) elucidated the taxonomic history of the streptaxid *Streptostele* (*Tomostele*) *musaecola* (Morelet, 1860) and summarized its distribution. *Streptostele musaecola* was described from West Africa where its presumed native range extends from Guinea to the Congo. As a "tramp species" it has been introduced into islands of the Pacific: Vanuatu (Solem 1989), the Fiji Islands (Brodie & Barker 2012a, b), American Samoa (Solem 1989, Cowie 1998), the Cook Islands (Brook 2010, Brook et al. 2010), the Society Islands (Solem 1989), Central and northern South America, and the Caribbean (Hausdorf & Medina Bermúdez 2003, Robinson et al. 2009); additional records not mentioned in these references: Puerto Rico (S.A. Clark, unpublished); and Bermuda (Bieler & Slapcinsky 2000).

Given its wide anthropogenic distribution, especially in the West Indies and Bermuda, it was probably only a matter of time until the species would make its way to the North American mainland That time has now come as we report here on the first record of *S. musaecola* for the continental United States. The species was found by the authors along Old Cutler Road, near the entrances to the eastern and western parts of Matheson Hammock Park, Coral Gables, Miami-Dade County, Florida (25°40'53.06"N 80°16'23.42"W), on July 18, 2015. No live specimens were observed but several of the empty shells collected are fresh and transparent.

Old Cutler Road bisects Matheson Hammock Park. The park area on both sides of the road is a hardwood hammock growing on the Miami Rock Ridge. Several juvenile specimens of *Liguus fasciatus* were spotted on tree trunks. All other snails were found under leaf litter, coral-limestone rocks, and woody debris. A complete list of gastropods observed at the site is given in the Table. Voucher specimens are deposited in the Field Museum of Natural History (FMNH), Chicago, IL.

In total, we were able to record 39 gastropod taxa along Old Cutler Road. Of the 37 taxa identified to species level, an impressive 13 (or 35%) are introduced, non-native species. Florida has long been known as fertile ground for exotic species from monkeys to pythons to fish to invertebrates and plants. Florida ranks second in the U.S. in the production of horticultural and floricultural products (Florida Department of Agriculture and Consumer Services) and exotic plants are not only bred and exported from here but also imported to be cultivated in Florida. In general, the horticultural industry is an important vector for non-native plants and snails that travel together with them (Cowie et al. 2008). In particular, Fairchild Tropical Botanic Garden, with a decades-long history of importing tropical plants from all over the globe, abuts the southern end of Matheson Hammock Park east of Old Cutler Road. We don't know, of course, whether Old Cutler Road represents or is near the site of the earliest introduction of *S. musaecola*, but clearly possibilities for such an introduction abound in the area.



Streptostele musaecola **from Old Cutler Road, Miami, Florida (FMNH 344667).**

Streptaxid snails are carnivorous; they feed on invertebrates including other snails. Very little is known, though, about the effect of introduced streptaxids on native snail populations. It has been speculated (Miller 1993) that *S. musaecola* may have played a role in the extinction of the endemic Samoan partulid snail *Samoana abbreviata* (Mousson, 1869) but there is no hard evidence for this. Given the diversity and abundance of other, carnivorous and non-carnivorous, introduced gastropods in Florida, the carnivores may well prey to a large degree on other alien species and even on each other. Nevertheless, the discovery of another predatory snail in the continental U.S. is troublesome and negative effects on native snails and slugs can't be ruled out.

Table of specimens collected along Old Cutler Road, near the entrances to the eastern and western parts of Matheson Hammock Park, Coral Gables, Miami-Dade County, Florida (25°40’53.06”N 80°16’23.42”W), on July 18, 2015.

Species	Family	Native/Alien	Annotation #
Bradybaena similaris (Férussac, 1821)	Bradybaenidae	alien	
Bulimulus guadalupensis (Bruguière, 1789)	Bulimulidae	alien	
Drymaeus multilineatus (Say, 1825)	Bulimulidae	native	
Euconulus chersinus (Say, 1821)	Euconulidae	native	
Guppya gundlachi (L. Pfeiffer, 1839)	Euconulidae	native	
Cecilioides apertus (Swainson, 1840)	Ferussaciidae	alien	
Zonitoides arboreus (Say, 1816)	Gastrodontidae	native	
Ovachlamys fulgens (Gude, 1900)	Helicarionidae	alien	
Helicina clappi Pilsbry, 1909	Helicinidae	native	
Oligyra orbiculata Say, 1818	Helicinidae	native	
Melaniella gracillima (L. Pfeiffer, 1839)	Oleacinidae	native	
Liguus fasciatus (O.F. Müller, 1774)	Orthalicidae	native	
Glyphyalinia umbilicata (Cockerell, 1893)	Oxychilidae	native	
Nesovitrea dalliana (Pilsbry & Simpson, 1889)	Oxychilidae	native	
Philomycidae	Philomycidae	?	1
Zachrysia provisoria (L. Pfeiffer, 1858)	Pleurodontidae	alien	
Zachrysia trinitaria (L. Pfeiffer, 1858)	Pleurodontidae	alien	2
Daedalochila uvulifera (Shuttleworth, 1852)	Polygyridae	native	
Polygyra septemvolva Say, 1818	Polygyridae	native	
Chondropoma dentatum (Say, 1825)	Pomatiidae	native	
Hawaiia minuscula (A. Binney, 1841)	Pristilomatidae	native	
Lacteoluna selenina (Gould, 1848)	Sagdidae	native	
cf. Scolodontidae	? Scolodontidae	? alien	3
Euglandina rosea (Férussac, 1818)	Spiraxidae	native	
Huttonella bicolor (Hutton, 1834)	Streptaxidae	alien	
Streptostele musaecola (Morelet, 1860)	Streptaxidae	alien	4
Allopeas gracile (Hutton, 1843)	Subulinidae	alien	
Beckianum beckianum (L. Pfeiffer, 1846)	Subulinidae	alien	
Lamellaxis micrus (d’Orbigny, 1835)	Subulinidae	alien	
Opeas hannense (Rang, 1831)	Subulinidae	alien	5
Subulina octona (Bruguière, 1792)	Subulinidae	alien	
Thysanophora plagioptycha (Shuttleworth, 1854)	Thysanophoridae	native	
Cochlodinella poeyana (d’Orbigny, 1841)	Urocoptidae	native	
Microceramus pontificus (Gould, 1848)	Urocoptidae	native	
Pupisoma dioscoricola (C. B. Adams, 1845)	Valloniidae	native	
Pupisoma macneilli (G. H. Clapp, 1918)	Valloniidae	native	
Gastrocopta contracta (Say, 1822)	Vertiginidae	native	
Gastrocopta pellucida (L. Pfeiffer, 1841)	Vertiginidae	native	
Gastrocopta rupicola (Say, 1821)	Vertiginidae	native	

# annotations on page 28.

Annotations to the species list:

1. The only two slug specimens are unfortunately both small, most probably juvenile. They clearly belong to the family Philomycidae which has American as well as Asian species. Investigations are underway to clarify the taxonomic status of these specimens.

2. The larger of the two *Zachrysia* species introduced into Florida from Cuba had previously been referred to as *Z. auricoma* (Férussac, 1821) (e.g., Turgeon et al. 1998, Robinson 1999). More recently (e.g., Auffenberg et al. 2011) it has been called *Zachrysia trinitaria* (L. Pfeiffer, 1858), based on anatomical data (D.G. Robinson *in litt.* 2015).

3. Two empty shells were first thought to represent a second species of the North American genus *Glyphyalinia* but didn't match any of its species. We now consider that this might be another introduction, possibly of a member of the Neotropical family Scolodontidae (= Systrophiidae). The shells are rather featureless and only live-collected material will eventually reveal their identity.

4. *S. musaecola* had been reported from the Neotropics under the synonymous name *Luntia insignis* E.A. Smith, 1898 (Hausdorf & Medina Bermúdez 2003).

5. The name *Opeas hannense* (Rang, 1831) replaces the older, but in its original combination (*Helix goodalli*) preoccupied name *Opeas goodallii* (Miller, 1822) and the junior synonym *O. pumilum* (L. Pfeiffer, 1840) (Proschwitz 1994, Cowie 1998).

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Field Museum of Natural History
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COA *Neptunea* Award

Many of us are beginning plans for the 2016 COA Convention in Chicago, IL. One of the many events on the agenda is the annual COA *Neptunea* Award(s), and it is once again my privilege to call for nominations.

The consensus of the COA Board is to reopen nominations with a "clean slate" annually. **Nominees not selected in previous years are certainly welcome for consideration if renominated - in fact their renomination is encouraged.** For the present cycle, nominations will close on June 1, 2016 so as to allow ample time for deliberation before the convention.

By way of background, the *Neptunea* Award (Brunner, 2000; Lipe, 2000) was established at the midyear (1999-2000) meeting of the COA Board in order to recognize outstanding and distinguished service to conchologists and malacologists in recognition of:

1. Service to the Conchologists of America.

AND/OR

2. Service to the scientific interests of Conchologists of America.

AND/OR

3. Service to the science of Malacology as it applies to conchologists anywhere. Although notable exceptions have been made, the COA Board, which serves as the jury for the *Neptunea* Award, has traditionally weighed its consideration for award recipients toward (1) amateurs: those not currently pursuing a principal career involving collection, study, or commerce of mollusks, (2) individuals "working behind the scenes" and relatively unrecognized in the COA world, for their contributions, and (3) active members of the COA. Up to three awards have been made at our annual conventions beginning with the Houston event in 2000 (see below). Nomination(s) for the *Neptunea* Award may be made by any COA member, and the format is simple:

Name of nominee:

This person deserves this award because (Here a somewhat detailed paragraph will suffice.)

.... Signed ....

and either snailmail or email that nomination to the COA *Neptunea* Award Coordinator [currently me]:
Harry. G. Lee
4132 Ortega Forest Drive
Jacksonville, FL 32210 / shells@hglee.com]

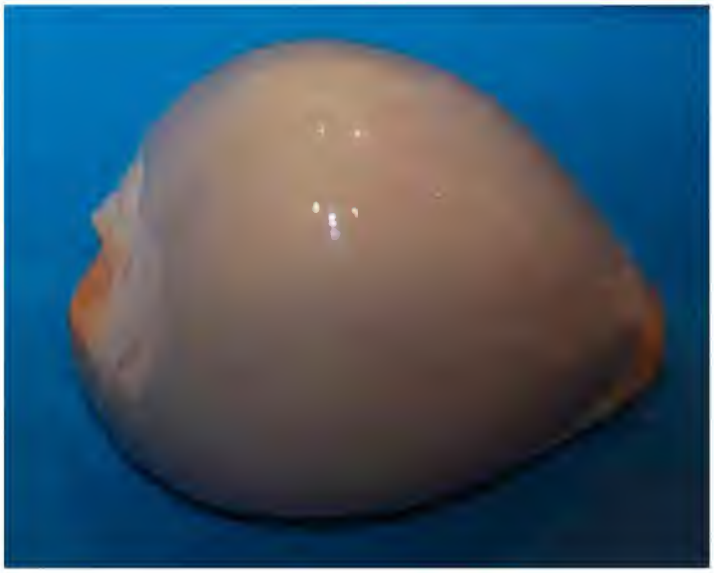
Previous Neptunea Award winners:

2000 (Houston, TX): Ross Gunderson, Ben & Josy Wiener, Debbie Wills
2001 (Port Canaveral, FL): Emilio Garcia, Harry Lee, Lynn Scheu
2002 (Sarasota, FL): Richard Petit, Bernard & Phyllis Pipher
2003 (Tacoma, WA) Jim and Linda Brunner, Kevin Lamprell, Doris Underwood
2004 (Tampa, FL): Bobbi Houchin
2005 (Punta Rassa, FL): Richard Forbush, Anne Joffe, William Lyons
2006 (Mobile, AL): Jack Lightbourn, Betty Lipe
2007 (Portland, OR): none given
2008 (San Antonio, TX): Bill Frank, Archie Jones
2009 (Clearwater, FL) none given
2010 (Boston, MA): none given
2011 (Port Canaveral, FL): Alan Gettleman
2012 (Cherry Hill, NJ): Gary Rosenberg, Martin Avery Snyder
2013 (Sarasota, FL): David & Lucille Green, Marlo Krisberg, & Charles Rawlings
2014 (Wilmington, NC): Colin Redfern, Tom Rice
2015 (Weston, FL) John and Cheryl Jacobs; Kevan & Linda Sunderland

Philadelphia Shell Show 2015

Al Schilling (Club President)

Al Schilling (L) presents the COA Award to winner Allen Bennett (R) for his superb entry, "*Zoila*." He also took Best Shell of Show with his *Zoila mariellae*.



Allen Bennett's Best Shell of Show: *Zoila mariellae* Raybaudi, 1983. A classic rarity – seldom seen, much less part of any Cypraeidae collection.

The 2015 Philadelphia Shell Show was actually the 33rd edition. It started in 1983 at Drexel University, took a hiatus in 1985 when we hosted the COA Convention, then moved to the Academy of Natural Sciences in 1986, where it remains today. The show seems to have gotten easier to put on over the years, partly from having it at the same location every year, but more importantly because of the tremendous support the club has from the Academy staff.

I would like to take this opportunity to thank the key Academy staff that helped put the show on this year. Collections Manager Paul Callomon was again this year the main "go to" person at the Academy who saw that everything worked the way it should. Bruce Tepper again saw that our exhibits were properly lit. This necessitated many, many trips up and down his ladder. Keith, Jamal, and the Cleantech crew were very cooperative setting up both the exhibit and bourse tables. The contributions of the following Academy staff were also greatly appreciated: Hollie Barattolo, Ellen Wildner, Gary Rosenberg and Mike Beers. Lastly, I would like to welcome Nasreen "Nas" Phillips to her first Philadelphia Shell Show. She was everywhere from the parking lot to the bourse to the book sale cart. We hope to see much more of Nas in the future.

On the club side of things, I would like to thank J. B. Sessoms and Mary Jane Schilling for the long hours they put in setting things up. The following club members also contributed to the success of the show: Nick and Betty Ruggeri, Elaine McDonald, Mike Gage, Rich Kirk, Tommy Thompson, Richard Kaplan, and Tom Grace. I want to welcome Brittany and Deven to their first show as club members. Deven was instrumental in getting Regis's ship down to the Academy! Thank you Tom for bringing us some of your fine apples, and mega thanks to Sue for donating that fantastic table of shells for the raffle.

While the number of exhibits was fewer this year, the quality of the exhibits was just as high as it has been in the past few years. It took the judges three hours to make their final decisions, and even though I listened very closely during the show, I didn't hear a single complaint about the judging. Our judges were Lauren Duguid and Wendy Marshall on the artistic side and Rich Goldberg and Art Bogan on the scientific side. Club exhibitors in the scientific category were Tommy Thompson, Tom Grace, Nick and Betty Ruggeri, Regis D'Angolini and Al Schilling.

Some of the 2015 Philadelphia Major Shell Show Awards:

DuPont Trophy: "Mr. Seashell and North Carolina's marine mollusks", **Ed Shuller & Jeanette Tysor**, NC.
Master's Award: "Worldwide Calliostomatidae", **Tom Grace**, Alburtis, PA.
Conchologists of America Award: "*Zoila*," **Allen Bennett**, Kerrville, TX.
2015 Philadelphia Shell Show Special Award: "Patterns in Nature," **Al Schilling**, Glenside, PA.
- Best Shell of Show: *Zoila mariellae,* **Allen Bennett**, Kerrville, TX.
- Regional, any source: "North Carolina's marine mollusks", **Ed Shuller & Jeanette Tysor**, NC
- Themed collection: "Seashells from shipwrecks", **Regis D'Angiolini**, Abington, PA.

40th NC Shell Show 2015 – Wilmington, NC

Vicky Wall, winner of the COA Award (and People's Choice Award) for her display: You're Going Where? Worldwide Self-Collected Shells." Vicky also had the winning photograph, "*Nodipecten fragosus*" and the best self-collected shell, *Nerita peloronta*, a large 40.49 mm specimen.

The 40th NC Shell Show was held in Wilmington, at the Cape Fear Museum of Science and History. A large group of shell club members arrived early to prepare tables for exhibits, club sales, giveaway, and vendors. Those working to move, cover, skirt the tables, and lay out the exhibits were: Doug & Nancy Wolfe, Wanda Collins, Susan O'Connor, Susan & Alex Rotman, Vicky Wall, Karlynn Morgan, George Dick, Bill Bennight, Susan Ross, Jeannette Tysor, Ed Shuller, Ruth Drye, David Bunn, Betsy Bluethenthal, Ed's sister Carol Powers, Karlynn Morgan's nephew Rob Bertram and his friend Daniel Ezzo; all under the direction of Shell Show Chairman, John Timmerman and Vice President, Everett Long. Total attendance at the 2015 shell show was 580. Bill Lyons and Brian Hayes were the scientific judges, Nancy Timmerman was the arts & craft judge, There were over 200 feet of scientific exhibits, 30+ feet of artistic exhibits, and exhibitors from Virginia, North Carolina, Florida, and Massachusetts.

Some of the 2015 North Carolina Major Shell Show Awards:

DuPont Trophy: John Timmerman "Selected Components of Shell Show Exhibits."

Conchologists of America Trophy: Vicky Wall "You're Going Where? Worldwide Self-Collected Shells."

Dean & Dottie Weber Environmental Awareness Trophy: Sheila Nugent "Living the Mangrove Life."

Hugh Porter Trophy for Western Atlantic Mollusks: Ed Shuller and Jeannette Tysor "Mr. Seashell and NC Marine Mollusks."

Victoria "Vicky" Wall Educational Award Commemorating the 40th Anniversary of the NC Shell Show: John Timmerman, "Selected Components of Shell Show Exhibits."

Best Shell in Show: Ronald Hill, *Perotrochus oishii.*

Best Self-Collected Shell in Show: Vicky Wall, *Nerita peloronta.*

Alta VanLandingham Award for Best Self-Collected Exhibit: Sheila Nugent, "Red Truck Adventures, Freshwater Mussels of Maine."

Best NC Exhibit: Ed Shuller and Jeannette Tysor, "Mr. Seashell and NC Marine Mollusks."

Best Novice Exhibit: Alex Rotman, "Self-Collected Shells from Portsmouth Island NC and Captiva Island Florida."

Best Junior Exhibit: Alex Rotman, "Self-Collected Shells from Portsmouth Island NC and Captive Island Florida."

People's Choice Award: Vicky Wall, "You're Going Where?

Demonstrating that there are still young people interested in conchology, Alex Rotman won the Junior and Novice Awards.

2016 COA Convention Chicago, IL
July 27-31, 2016
(July 25 & 26 Field Trips)

The Chicago Shell Club cordially invites all shell enthusiasts to join us July 27-31, 2016, for "Shellebrate Chicago" COA 2016.

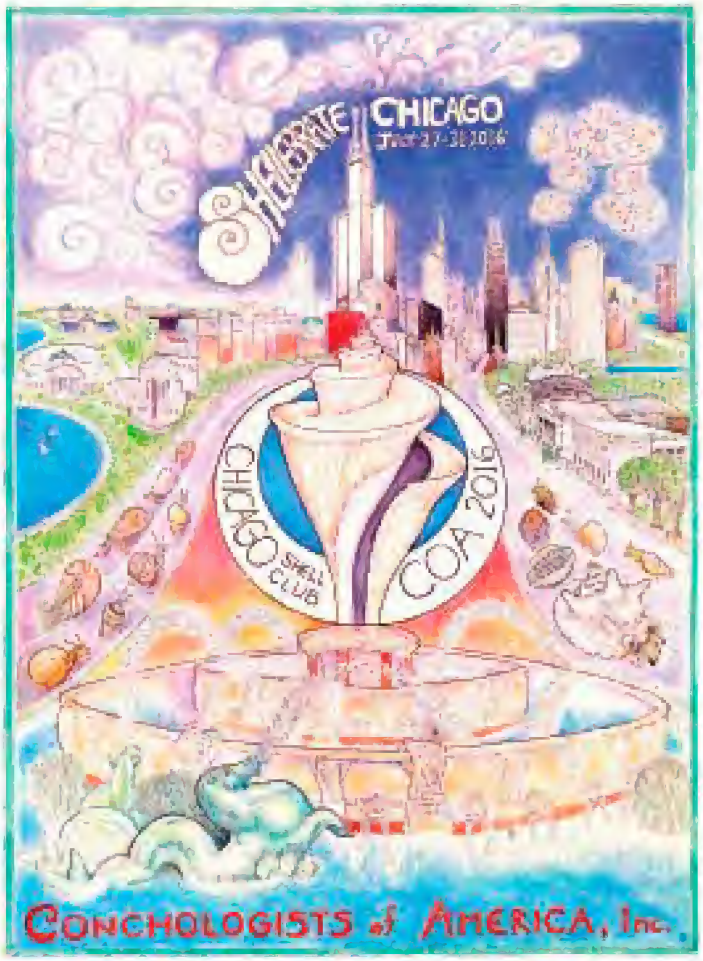
The Crowne Plaza in Rosemont, Illinois, will be home to the Conchologists of America annual convention just minutes from Chicago O'Hare International Airport. On Monday and Tuesday there are pre-conference field trips. The conference convenes Wednesday morning and concludes with the Bourse on Saturday and Sunday.

There is a free shuttle to the hotel, so no need to rent a car. There are many restaurants in the area and the Fashion Outlets of Chicago just out the back door. Room rates are $148 (plus tax) for single occupancy, which includes free parking, WiFi, fitness center, and breakfast. Double occupancy is $158 (plus tax) {$10 for the 2nd breakfast} and $248 (plus tax) for suites. These rates are available for 3 days before and 3 days after the convention.

For hotel reservations, call Toll Free: 888-233-9527, international callers call 847-671-6350 or go to: https://goo.gl/nhuhJC. Reservation code is Conchologists of America. Deadline for convention rate is July 6, 2016.

The 2016 COA Convention will be a family event. We encourage you to bring your spouse, children, and grandchildren – there is so much to do in Chicago. There is a shuttle that will take you to the "Blue Line," which takes you right to downtown Chicago. The list of museums and things to do is more than anyone can do in a week. Some highlights include:

*Chicago Art Institute
*Blues Concerts and Dinner
*Grant Park Symphony Orchestra
*Millennium Park (see the famous "Bean")
*Adler Planetarium
*John G. Shedd Aquarium (pre-convention field trip planned)
*Field Museum of Natural History (pre-convention field trip planned)



*Field Museum of Science and Industry (pre-convention field trip planned)
*The Magnificent Mile (shop until you drop!)
*Fabulous restaurants to please all
*and much, much more!

There will also be some special activities for children under 14, as well as a special COA child's rate.

The pre-Convention field trips will be something you won't want to miss.

FIELD MUSEUM OF NATURAL HISTORY

The Field Museum is among the great natural history museums in the world, with first rate exhibitions and a collection of more than 24 million specimens and artifacts. The most widely known specimen is Sue, the most complete and best-preserved *Tyrannosaurus rex* fossil yet discovered. The Field Museum's mollusk collection ranks among the largest in the world with ca. 350,000 cataloged lots.

Dr. Jochen Gerber will lead those interested in a behind the scenes tour with highlights of the mollusk collection as well as some of the mollusks and other invertebrates on exhibit. For more about the Field Museum of Natural History, go to https://www.fieldmuseum.org/ and https://www.fieldmuseum.org/science/research/area/invertebrates

JOHN G. SHEDD AQUARIUM

The aquarium contains 32,000 animals representing 1500 species, including: fish, coral, marine mammals, birds, snakes, amphibians, and insects. The tour offers access to the permanent exhibitions, including: the Wild Reef (the recreation of a Philippine coral reef), Amazon Rising (representing the Amazon River and the surrounding jungle), and an aquatic show in the Oceanarium featuring belugas, dolphins, and sea lions. There will also be an opportunity to learn about the research and conservation work conducted by the Shedd staff. For more information about the Shedd Aquarium, visit http://www.sheddaquarium.org/

MUSEUM OF SCIENCE AND INDUSTRY

It is the largest science museum in the western hemisphere, bringing science to life with award-winning exhibits and immersive experiences. On its 350,000 square feet (approximately 8 acres), it presents over 2,000 exhibits in many fields, including technology, agriculture, transportation, energy, and communications.

Spark your imagination and indulge your curiosity in the Museum's engaging exhibits. From the beloved Coal Mine to the latest temporary exhibit, you'll be exposed to bold science and interactive learning experiences in an eye-opening, awe-inspiring environment. Other featured attractions include the Henry Crown Space Center, Science Storms, Ships through the Ages and the German WWII submarine U-505. For information go to: http://www.msichicago.org/

LINCOLN PARK ZOO

The Lincoln Park Zoo, founded in 1868, is one of the oldest zoos in the U.S and is internationally recognized as one of the largest conservation centers in the world. The zoo's exhibits include big cats, gorillas, reptiles, monkeys, and other species totaling about 1,100 animals from some 200 species. Its Conservation & Science Department runs one of the largest zoo-based research and conservation programs in the country.

See unique exhibitions, such as the African Journey and the Center for African Apes and get **behind-the-scenes access** to areas usually closed to the public. For more about the zoo, go to: http://www.lpzoo.org/

ARCHITECTURAL BOAT TOUR

The **Chicago Architecture Foundation (CAF) River Cruise** is consistently recognized as the best way to see Chicago. Learn about the architecture and design of over 50 buildings as described by CAF-Certified Volunteer docents and guides on this 90-minute tour. Open-air and air-conditioned seating is available. Full service bar onboard each vessel. Check it out at: https://www.youtube.com/watch?v=cH-ZDcGpZNs

LAKE MICHIGAN DINNER CRUISE

Chicago's world-famous skyline is best enjoyed from the waters of Lake Michigan. The casual, yet lively, atmosphere of a *Mystic Blue* Dinner Cruise in Chicago is a terrific way to cap off the day with a group of friends. Watch the sun set on the horizon and the Chicago skyline light up as you enjoy panoramic views including iconic sights like Willis Tower, Navy Pier, and John Hancock Center.

Savor a delicious buffet dinner on board the *Mystic Blue* and have a drink from the cash bar while taking in the unparalleled view of downtown Chicago. See all the details at: http://www.mysticbluecruises.com/chicago/cruises/specialty/lake-breeze

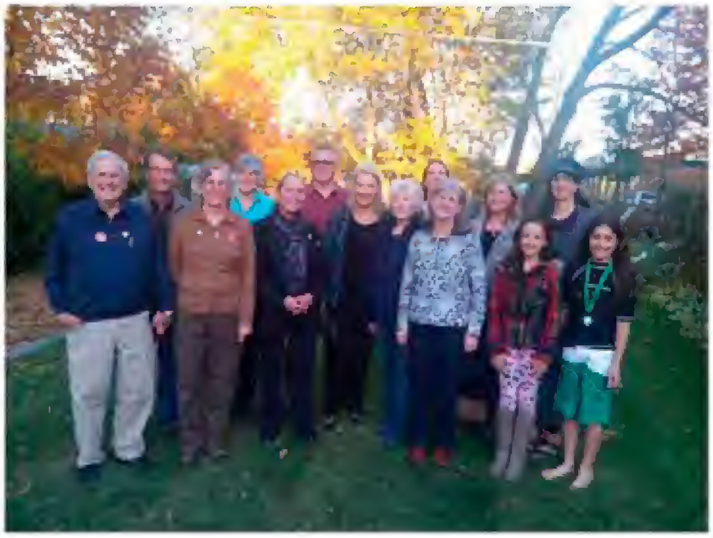
POST-CONFERENCE FIELD TRIP, AUGUST 1 & 2

We are planning a two day land and freshwater collecting trip to the Mississippi on Aug. 1-2, staying in a local hotel overnight. We will arrange for transportation and will make a hotel reservation. If you are interested in participating please send an email to jgerber@fieldmuseum.org. Please indicate whether you need transportation or plan to drive your own car. In the latter case, please also let us know whether you will drive back to Chicago and if so, how many passengers will you be able to accommodate.

WELCOME PARTY

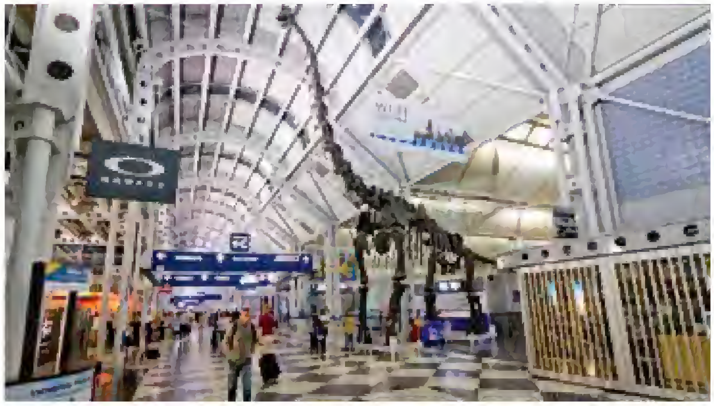
The Welcome party will be held at the famous Field Museum of Natural History under the best preserved Tyrannosaurus ever found, Sue. The theme for the Welcome party is "Shellebration" and the attire is anything shell – so pull out those shirts, skirts, and jewelry that have a shell motif.

The Chicago Shell Club members are excited and enthusiastic to welcome you all to the city of Chicago!



COA Committee pictured (l to r): Lee Kremer, Ken Mattes, Jan Kremer, Dr. Stephanie Clark, Rebecca Gray Smith, Dr. Jochen Gerber, Theresa Jaffe, Lynn Funkhouser, Amanda Lawless, Kathy Frank, Linda Young, Zoe Frost, Katarina Frost and Evan Frost.

Chicago skyline from Northerly Island looking northwest. Wikipedia.com



Chicago O'Hare International Terminal

Our Program Committee is working hard to bring some exciting and wonderful programs for your enjoyment. We are looking for input as to what types of programs you would like to see, i.e. travelogues, technical/research oriented, pretty pictures, etc. You can send your input to 2016coa@gmail.com.

Don't forget the fabulous Silent and Oral Auctions where you can get some great deals on shells you won't want to miss! Donations can be sent to Jan Kremer, 4511 Prime Parkway, McHenry IL 60050.

One of our Oral Auction items will be the framed original artwork for the 2016 COA Convention, by Rebecca Gray Smith of the Chicago Shell Club.

The 2016 COA will end with the Dealer's Bourse. It will be held in the Grand Ballroom and we are sure there will be shells to please all! So don't delay, reserve your hotel room and register for a COA you won't want to miss! For more details of the COA 2016 Convention, go to the website: www.conchologistsofamerica.org/conventions or email 2016COA@gmail.com

American CONCHOLOGIST
Calendar membership (Jan - Dec) = $25 (USA)
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